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D, 6th Febry, 1832.

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FLORA AND POMONA;

OR,

THE BRITISH

Fruit and Flower Garden:

CONTAINING

DESCRIPTIONS OF THE MOST

VALUABLE AND INTERESTING

Flowers and Fruits

CULTIVATED IN THE

GARDENS OF GREAT BRITAIN.

WITH FIGURES DRAWN AND COLOURED FROM NATURE.

BY C. M^c^ INTOSH, C.M.C.H.S.
Head Gardener to his Royal Highness Prince Leopold, at Claremont; and Author of "The Practical Gardener and Modern Horticulturist"

SEARS Sc. 1 WARWICK SQ.

London:
PRINTED FOR THOMAS KELLY, No. 17, PATERNOSTER ROW,
By J. Rider, Little Britain,
And Sold by his Agents and all Booksellers in the British Empire.

ADDRESS.

IF we refer to the many useful Botanical and Horticultural Publications for which the literature of this country is so eminently distinguished, it may, by some, be deemed superfluous to attempt to add another to the already voluminous list. Intrinsically valuable, however, as those works may be to the scientific inquirer into the hidden mysteries of the vegetable kingdom, and equally so to the scholar, who has been fundamentally initiated in the technicalities of science, yet it must be admitted that, to the generality of the people, and particularly to the ardent student, who possesses not the advantage of a liberal and refined education, those valuable channels of information are little better than a sealed letter.

One of the principal objects of the present Work is to disseminate, in plain and intelligible language, that information, from which the botanical student has hitherto been excluded by his ignorance of the phraseology which has been generally adopted, and considered as one of the primary features of this Work, it impresses on it a value which no other Botanical Work extant is known to possess.

The ornamental part of this Work will consist of skilfully executed Drawings of rare and valuable Fruits and Flowers cultivated in the most celebrated gardens of Great Britain, accurately and beautifully coloured from the subjects themselves, in the stage of their highest perfection, accompanied by a plain description of their origin, botanical and pomonological characters, the period of their introduction into this country, with general observations on their nature and mode of culture.

With the view of rendering this Work generally useful and interesting, and at the same time, by its cheapness, to bring it within the reach of those even of the most limited income, it has been resolved to publish it in Monthly Parts, each containing Three highly-finished and accurate Engravings, in equal proportion of Flowers and Fruits, and the Author and Proprietor pledge themselves that no Drawing shall appear in the Work which is not taken from the *object itself*, and to which reference cannot be given of the place of its growth. The Drawings will be executed by that highly-distinguished botanical draughtsman, Mr. E. D. Smith, F.L.S.; and the colouring by artists of the first-rate ability, under his immediate inspection. The execution of the literary department will be accomplished solely by the talent of Mr. Charles M'Intosh, Head Gardener to his Royal Highness Prince Leopold, at Claremont, and Author of that popular and much-admired Work, "*The Practical Gardener and Modern Horticulturist.*'

The Letter-press will contain a concise though perspicuous illustration of whatever is interesting or valuable on each subject, natural and artificial, a part of which will be devoted to the introduction of a perfectly original and valuable feature in a Work of this kind, and which of itself must be considered as an excellence that will ensure the patronage of every lover of the Fine Arts; namely, *Instructions for drawing and colouring Fruits and Flowers, with the requisite directions for properly mixing the colours*, and other minutiæ attending the acquisition of so pleasing an accomplishment, by Mr. Smith.

For the purpose of carrying this desirable plan into execution, it is proposed to publish four editions of the Work. The first in Parts, price 1*s.* 6*d.*, with the Plates in outline, plain, in Octavo size; the second, price 2*s.* 6*d.*, with the Plates beautifully coloured from nature, in Octavo size, to correspond with, *and forming a suitable companion to*, "M'Intosh's Practical Gardener," just completed; and a more elegant Edition in Quarto will also be published, with the Plates coloured and plain; the former at 3*s*, the latter at 2*s.* each Part; and for the accommodation of those who wish to become proficients in the drawing and colouring of the Fruits and Flowers, the Three Plates of each Part may be had without the Letter-press, in outline, at 1*s.* stitched.

London: Printed for THOMAS KELLY, No. 17, Paternoster Row,

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ACCOMPANIED BY

A CONCISE ANALYSIS OF THEIR

BOTANICAL AND POMONOLOGICAL CHARACTER,

THEIR NATURE AND MODE OF CULTURE,

INCLUDING

A DEFINITION OF THE TECHNICAL TERMS USED IN THE SCIENCE OF BOTANY,

WITH

FAMILIAR INSTRUCTIONS FOR THE DRAWING AND COLOURING OF THE FRUITS AND FLOWERS.

By CHARLES Mc. INTOSH, C.M.C.H.S.

HEAD GARDENER TO HIS ROYAL HIGHNESS PRINCE LEOPOLD, AT CLAREMONT; AND AUTHOR OF "THE PRACTICAL GARDENER, AND MODERN HORTICULTURIST."

LONDON:

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1829.

Printed by J. Rider, Little Britain, London.

INTRODUCTION.

It was a common saying of the immortal Newton, that he never could look upon a flower without associating with it the idea of one of the most perfect of the creations of God. In every relation it is complete; in all its properties and uses, in all its gorgeous display of ornament and beauty, it is an object of universal attraction and admiration. From the first germination of the seed to the full expansion of the flower, it is a continued series of moral instruction, and a delightful emblem of the various stages of human life.

Without the slightest intention of depreciating the pleasures and advantages which are derived from the knowledge of the sciences in general, it must be still admitted, that there are few which contribute more to the enlargement of the human mind, or with which a greater degree of utility is combined, than that which embraces the cultivation of Fruits and Flowers. Still, however, in a field of such vast extent, in which at every step some hitherto unknown rarity presents itself, which has escaped the notice of those who have gone before us, it cannot be considered as a superfluous task to trace over the ground again, and by striking into a hitherto unbeaten track, expose some beauties yet undiscovered, and at the same time, remove many of those disheartening obstacles, which have hitherto impeded the progress of the scholar to an attainment of a just and comprehensive knowledge of the true principles of Botany.

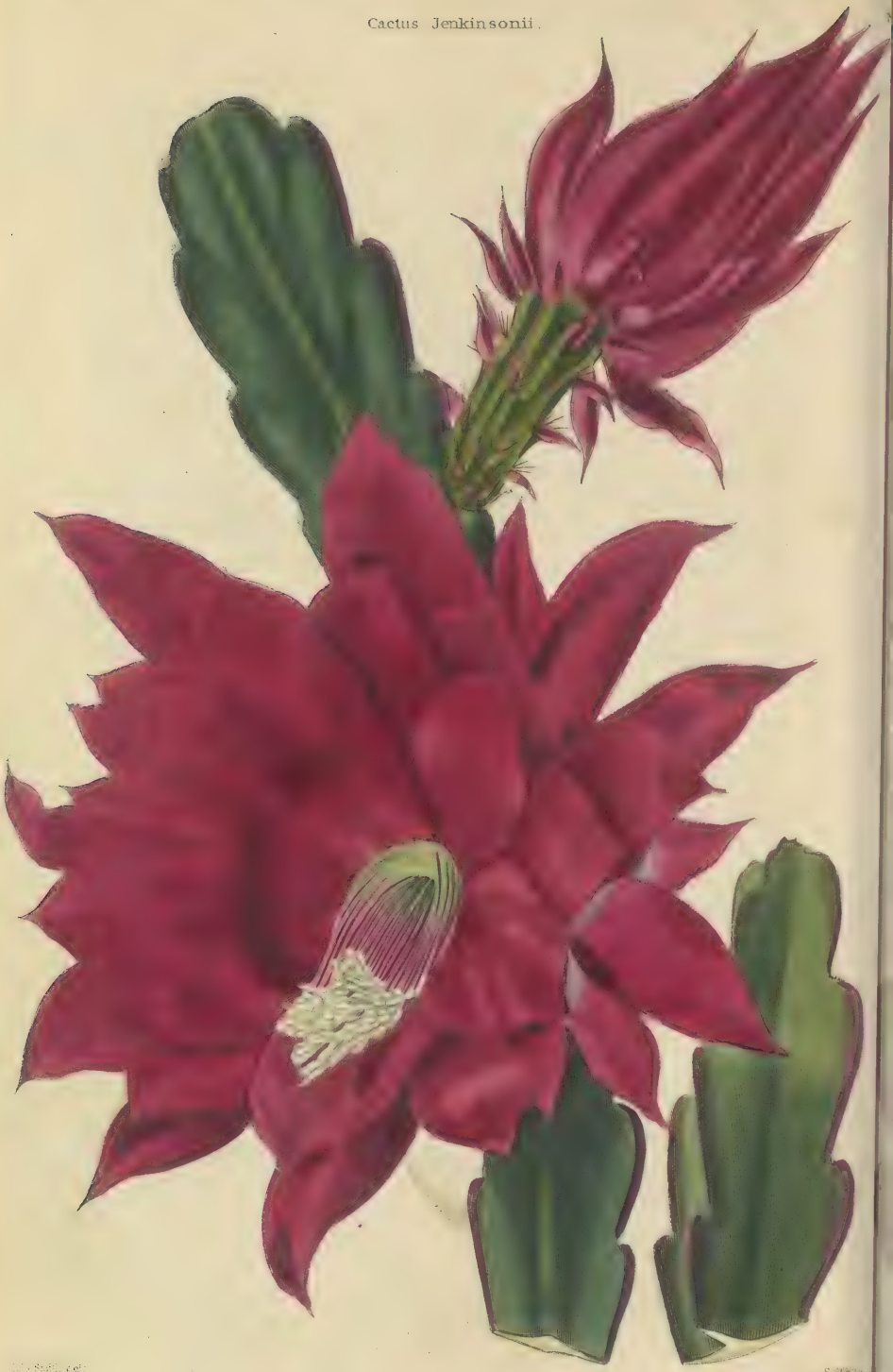
It cannot have escaped the observation of every reflecting mind, that the inculcation of the first principles of a science in dead languages, which do not form a branch of education in the minor schools, must necessarily act as a considerable drawback to those persons whose genius may lead them to the study and attainment of the science of Botany. Hence they who possess not the knowledge of those languages, will parrot-like, pronounce the generic character and the systematic classification of the flower, at the same time that he is actually ignorant of the acceptation of the terms.

The adoption of a plan by which that difficulty can be superseded, by furnishing an explanation of the technical words which may be used in botanical history, cannot but be received with the most decided approbation by all who are desirous to make themselves fundamentally acquainted with the real principles of Botany; and it is on this basis, that one of the excellences of this Work is so strikingly displayed. With a concise, though luminous description of the origin, the botanical and pomonological character of each fruit and flower, the period of their introduction into this country, with other general and useful observations on their nature and mode of culture, it is intended to give a definition of the scientific terms which may be used in their description; and thus a Botanical Dictionary will be formed, which, if considered in no other light than as a book of reference, impresses a value on the Work, which no other, professing to treat on the same subject, is known to possess. Nor is it intended to restrict the character of the work to the simple definition of the term, but such a method of accentuation will be adopted, as will at once point out its proper pronunciation.

A combination of the *utile* with the *dulce*, is acknowledged to be a recommendatory feature of every work; and one of the most certain methods of encouraging the student in any arduous pursuit, is so to blend amusement with instruction, that the latter becomes rather a pleasure than a toil. In this respect we solicit particular notice to an original feature in a work of this kind, namely, instructions, on easy and scientific principles, for drawing and colouring the respective Fruits and Flowers, including the requisite directions for properly mixing the colours, and other minutiæ attending the acquisition of so pleasing an accomplishment.

The Author and Proprietor pledge themselves that no Drawing shall appear in this Work which is not taken from the subject itself, in its highest perfection, and to which reference cannot be given of the place of its growth, &c.

Cactus Jenkinsonii.



J. J. Stelfox del.

S. Watts

London, Published by Thomas Kelly, 17, Paternoster Row 1829.

No. 1.

CAC'TUS JENKINSO'NII.

MR. JENKINSON'S HYBRID CACTUS.

Class 12. ICOSA'NDRIA. *

Order 1. MONOGY'NIA. †

Natural Order. CAC'TI.

Native Country.	*Originated.*	*Figured in*	*Garden Hab.*	*Soil.*
South America.	1827.		Greenhouse or Stove.	Light, rich, porous matter.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
Apr. and Sep.	From 1 to 2 feet.	Cereus.	Cuttings.	Succulent perennial.

GENERIC CHARACTER.—Calix imbricated, or having the parts of which it is composed laid over one another like tiles. Petals numerous, in many rows, the inner ones being largest. Stigma, many clift. Seed many, contained in a pulpy berry.

SPECIFIC CHARACTER.—This species, like most other hybrids, partakes much of the general character of its female parent, having the flattened spineless branches of *C. Specio'sus,* which produced the seeds, from which our plant originated; but totally distinct from it, in having the flowers approaching nearer to its male parent, *C. Speciosis'simus,* from which, however, it differs in the petals being much narrower, and devoid of that beautiful purplish tinge for which the latter is so deservedly admired. They are also placed at a greater distance apart, and are of a beautiful scarlet colour. The stamina are not so long in proportion to the flower as in *C. Speciosissimus,* nor are they so numerous: the filaments are also of a less brilliant red. Style not so long, and not half the number of stigmas. The seed-vessel much longer, approaching nearer to that of *C. Speciosus,* as does the general appearance of the whole plant.

* ICOSA'NDRIA. The name of the twelfth class in the sexual system of botany, embracing those hermaphrodite flowers which are furnished with twenty or more stamens, and are inserted into the calix, or into the inner side of the petals, and is derived from *eikosi,* twenty; *aner,* a man.

By the situation, and not by the number of stamens, are the plants of this class distinguished from those of the thirteenth, in which the number of stamens are not unfrequently the same; but in the latter they are invariably inserted into the receptacle, and *not* into the calix or petals. This is an important although minute distinction, and cannot be too strictly attended to. To the class *Icosa'ndria* belong all the pulpy fruits, such as apples, pears, peaches, plums, apricots, cherries, &c.

In addition to the distinction above given between these two classes, it may be observed that the plants of the twelfth class have a hollow flower-cup, composed of one leaf to the inner side of which the petals are fastened by their claws.

† See No. 2.

GENERIC NAME, used by Theophrastus, one of the earliest botanists, in describing a spiny plant, an article of food, which grew in Sicily.

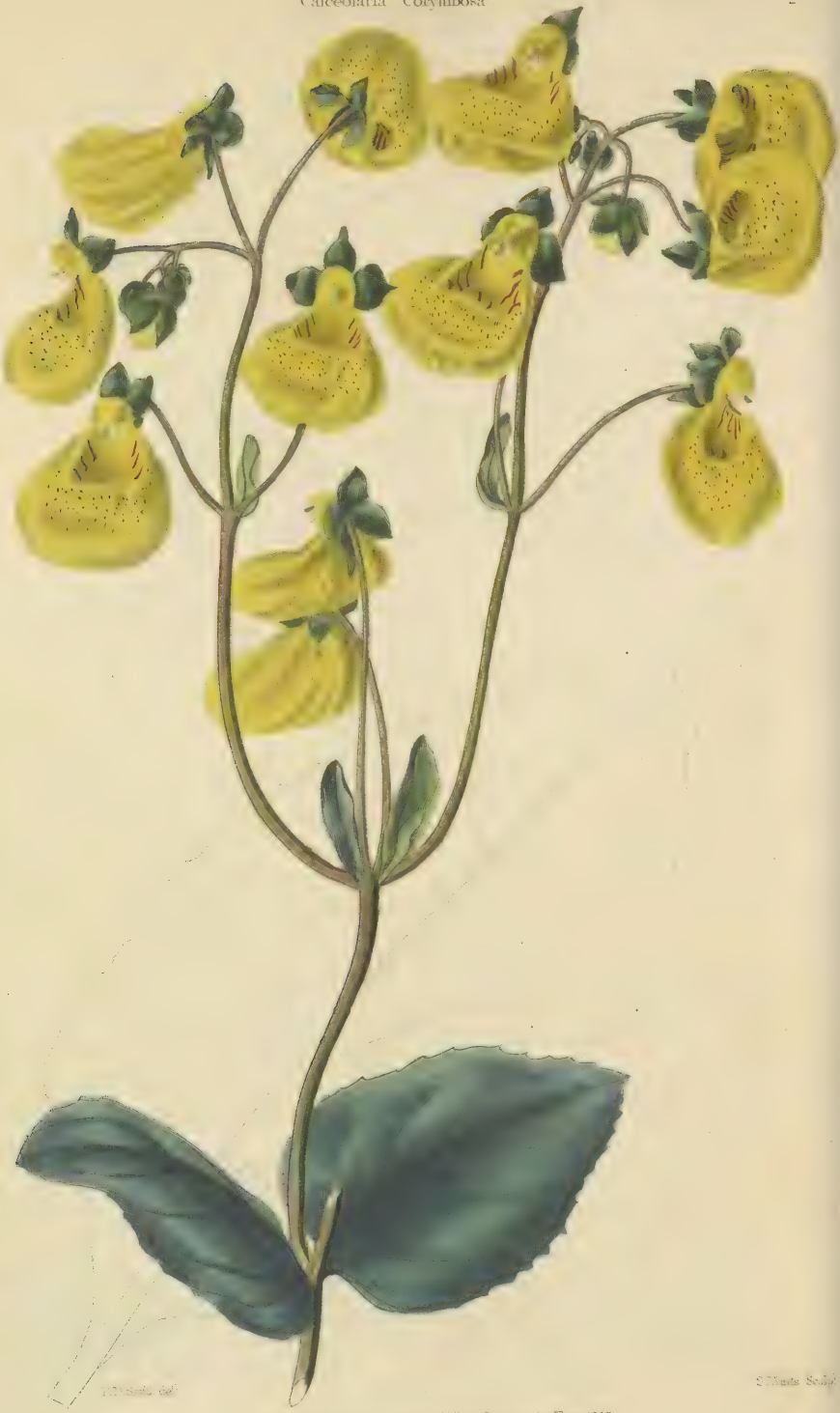
SPECIFIC NAME.—We have given the name of Cactus Jenkinsonii, at the request of Mr. W. Smith, in compliment to R. H. Jenkinson, Esq., an eminent patron of botany, and who attended to the impregnation of the parents of our subject.

GENERAL OBSERVATIONS.—It may be considered rather anomalous to register this plant as a native of South America, as we have no reason to believe that it ever existed in that country, although the contrary may be said of its parents; and as a somewhat singular coincidence, they were both introduced in 1816. Although it originated here, still it is not indigenous, and therefore we prefer giving the native country of its parents.

It may be necessary for us to observe, that several interesting hybrids have been originated by Mr. W. Smith, who, we believe, was amongst the first who succeeded in originating hybrids of this genus; a task for which he was highly qualified, having been for years engaged in similar experiments on the families Da'hlia, Pelargo'nium, &c.

Hybrids produced from various species of Cactus are now becoming of frequent occurrence, several of which were pointed out to us lately by Mr. Ingram, in the Frogmore Collection. The doctrine of hybrids appears to be but superficially elucidated, and charges have been brought against those who have admitted them as species, on the presumption that they are incapable of re-producing themselves by seeds. The seeds of hybrids, says Dr. Milne, will not propagate; and a similar opinion is entertained by many eminent botanists. The practical experiments of the Hon. and Rev. W. Herbert and Mr. Knight seem to refute that doctrine; (See *Phil. Trans.* and *Trans. Hort. Soc.)* and the conclusions drawn by Mr. Sweet on this subject, are, that plants of all orders strictly natural, may be reciprocally impregnated with success.

Linnæus, it would appear, concluded that hybrids were formed by nature, and not only admitted them into his genera, but several also which he considered approaching to that state, designating the former by the adjective *spurious*, and terminating the specific names of the latter in *ioides*. This opinion was also held by Salisbury and other eminent botanists, and more recently avowed by the Baron Hamelin, of Franconoille, in the case of a hybrid, between *Amyri'llis vitta'ta* and *Regina*, producing seeds from which plants have been originated; and also of hybrids being produced in the Botanical Garden of Brussels, between ranunculus, platanifo'lius, and grami'nius; and other hybrids observed on the summit of a mountain in Savoy, between *gentia'na lutea* and *purpu'ria*. This intelligent foreigner concludes that hybrids are not only daily created by man, but that they are every now and then produced by nature; an opinion from which we see no cause to dissent.



London, Published by Thomas Kelly, 17 Paternoster Row 1829.

No. 2.

CALCEOLA'RIA CORYMBO'SA.

CORYMB FLOWERED SLIPPERWORT.

Class 2.
DIA'NDRIA.*

Order 1.
MONOGY'NIA.†

Natural Order.
SCROPHŪLARI'NÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Chili.	1822.	Bot. Reg. No. 723.	Green-house.	Peat and loam.
Time of Flowering.	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
Apr. to Aug.	From 1 to 2 feet.		Seeds and dividing the Roots.	Biennial.

GENERIC CHARACTER.—Corolla,‡ consisting of one irregular ringent or gaping petal, inflated or swollen, as if full of air. Calix, divided into four almost equal divisions. Capsuls, two celled, two valved.

SPECIFIC CHARACTER.—Radical or root leaves, ovate and cordate, that is, partaking of both the egg and heart-shaped form, stalked, twice

* DIA'NDRIA, the name of the second class in the sexual system of Botany, and derived from the Greek words, *dis*, twice, and *aner*, a man, in allusion to the two stamina or male parts of the fructification, which determine the second class.

† MONOGY'NIA, the name of the first order of the first thirteen classes, and derived from the two Greek words, *monos*, one, and *gyne*, a woman, from the single *pistel*, or female organ, which characterises the first order of this class.

‡ CORO'LLA, from *corona*, a crown, a term adopted by Linnæus, to the beautiful coloured leaves of the flower which stand within the calix, and are supported by it. It was adopted by some of the earlier botanists, as the principle whereon they founded their respective systems, and is understood as affording the regular idea of a flower amongst all nations.

The corolla is defined to be the expansion or continuation of the fine inner bark of the plant, and consists of two parts, the *petal* and *nectarium*; the latter, however, is considered, by Dr. Milne, as rather a striking superfluity or occasional appendage than a necessary part to every flower.

The corolla is of many kinds, for which science has fixed proper terms, such as *corolla ringens*, in our present subject, a gaping or grinning flower. A corolla is either monopetalous, that is, consisting of one *petal*; or *polypetalous*, consisting of many, and each of these is divided into proper and distinct kinds.

The corolla is not only a beautiful, but also an extremely useful and important part of a flower, and affords protection and shelter to the more delicate parts; it is distinguished by Linnæus, in Phil. Bot., by the name of *aulæum floris*, or curtains of the bed, in which the nuptials of the plant are celebrated.

crenate, or doubly notched round the margin. Cauline, or stem leaves, cordate, half embracing the stem.

The generic name, Calceola'ria, is derived from *Calceolus,* a slipper, from the resemblance of the corolla of all the genus to a shoe or slipper.

The specific name, Corymbo'sa, from Corymbus, one of the modes of flowering, in which a common foot-stalk supports either simple or compound foot-stalks, without any regular order; but the lower ones, being longest, arrive at nearly the same height as the central ones, forming nearly a flat surface of flowers.

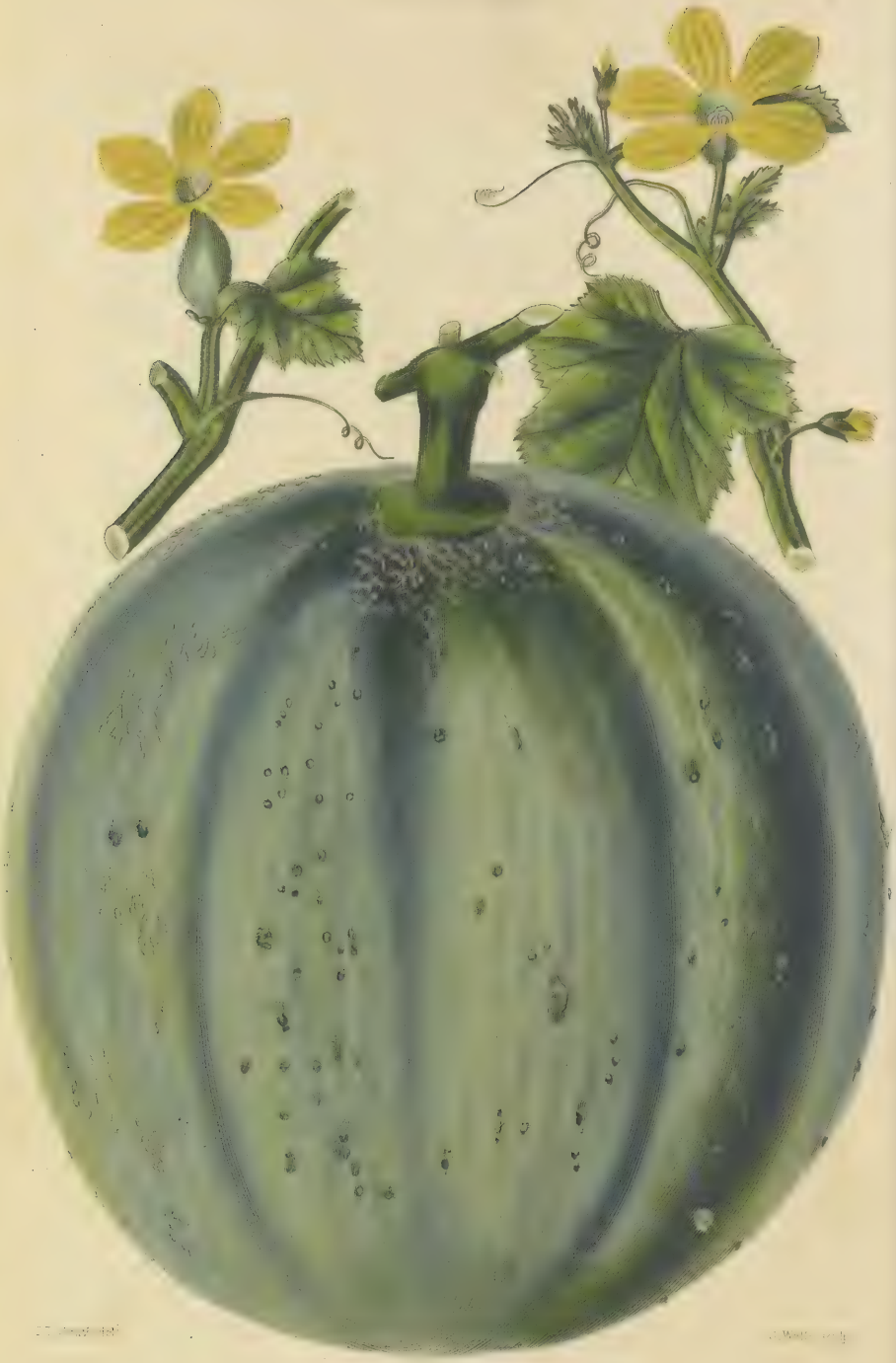
The corymb, it may be observed, is a mean between the umbel and the raceme, as the cyme is between the umbel and the corymb, a circumstance which should be attended to by the botanical student.

General Observations.—This very interesting and curious plant belongs to a family that can only be considered in the character of strangers to the majority of our British gardens; having all, with the exception of *C. Fothergi'llii* and *pinnata,* been unknown to us previously to 1822. The former of these, although introduced so early as the days of Dr. Fothergill, from whom it derives its name, was only known or met with in collections, strictly botanical; and being rather difficult to increase, and liable to decay, was considered one of our rarer hardy plants. The latter is readily propagated by seeds, and therefore more generally met with than any of the others.

The temperate regions of Chili and Peru are said to abound in many splendid species of this genus; and there are several species already in the London collections, which are not as yet enumerated in any of our Plant Catalogues.

The prevailing colour of the genus is yellow. They are all readily increased either by seeds or cuttings, and most of them are well calculated for planting out in the borders of the flower-garden during the summer months.

As green-house plants, they are all peculiarly interesting, and cannot fail of obtaining admission into every collection where there is the least pretension to a taste for plants. They may be considered as rather a short-lived family, and should therefore be frequently re-produced by cuttings or seeds, as the nature of the species will admit of. The herbaceous species are rather impatient of cold and damp, but the shrubby ones will survive the winter in a cold frame or pit, if kept dry.



London Published by Thomas Moore, Gardener's Chronicle Office.

I.

SMALL GREEN-FLESHED

CANTALOUPE* MELON *var.*

From the promiscuous intercourse which is constantly going on, not only between the different varieties of the melon, but also the gourd, cucumber, and almost every other plant of the natural order, Cucurbita'ceæ, and which not only affects the seeds for future plants, but also deteriorates the merits of the individual fruit which has been impregnated the same season, it follows as a consequence that fixed or permanent characters, by which any one individual variety may be described, cannot be rationally expected. In the present state of pomonological science, it may not therefore be altogether uninteresting for us to attempt to describe those kinds which have come within the limits of our own personal observation.

The many indifferent varieties in general cultivation, render any attempt towards forming a selection of superior sorts a matter of no trivial interest. It was a complaint, even in the days of Miller, that too many melons of secondary value were cultivated; and even at this day, it may be safely presumed that out of the seventy-one sorts enumerated in the fruit catalogue of the Horticultural Society, that it would be difficult to select twenty which are worthy of general cultivation.

As there are usually but two objects in view in the culture of this plant, the one, the production of highly-flavoured, and the other the production of large and showy fruit; the former, for the most part, refers to the private cultivator, or to those who cultivate them for the tables of their opulent employers, and the latter to the commercial growers, who cultivate for the markets.

To the former, in particular, we address ourselves: and it may be laid down as a general rule, that small melons are the highest flavoured; and in order to have them in the highest perfection, it is necessary that they be grown at a season when the sun is sufficiently powerful to bring them fully to maturity. And that none but esteemed sorts be attempted to be cultivated in the same garden, the fewer kinds there are in number, or the greater the distance which they are apart, the more chance exists of final

* The term Cantaloupe is very generally applied to such melons as are roundish in shape, and either carbuncled, rough, or warty, or having a netted surface. The name is derived from a seat of the Pope, of that name, about fourteen miles from Rome, and where the melon has been cultivated since the Mithridatic war, or about sixty-eight years before the Christian era, and conjectured to have been brought thither from Armenia by Lucullus.

success. Having thus once obtained a few genuine good sorts, there is little fear of accidental impregnation deteriorating any of them; whereas the introduction of an inferior sort for one season may considerably injure the whole.

The present subject, as the name implies, is a small fruit, varying from two to three and a half pounds weight, and from four to six inches in diameter: it sometimes, but seldom, obtains a larger size. In all its stages of growth, its colour is that of a silvery green, and sometimes slightly netted or reticulated on the surface, particularly towards the foot-stalk. Its internal colour, or flesh, is that of a semi-transparent green, inclining to a shade of white towards the centre. It abounds with juice, which discharges itself when the fruit is cut. The flesh is melting, sweet, and highly flavoured; and like all the green-fleshed kinds, is considered more digestible than the scarlet-fleshed sorts. The skin is thin, admitting of a greater depth of flesh or eatable portion in the rib than in most other melons.

The plant is hardy, and an excellent bearer, and much less subject to those diseases to which some of the finest sorts are liable, particularly in cold wet seasons. The vines, under ordinary good management, survive the ripening of the fruit, and will, with proper attention, yield a second, and often a third crop of fruit in one season, which is not generally the case with our best melons.

The present subject was originated in 1825, at Stratton Park, the parents being a green-fleshed sort, the seeds (originally from Yorkshire,) and one of the same colour received under the name of the Windsor Prize Melon. The result is the present fruit, but it resembles neither of its parents, except in the colour of its flesh and the essential characters of its flowers, which latter are seldom effected by hybridizing. In point of flavour it is superior to either, and is equally productive and hardy.

INSTRUCTIONS

FOR

DRAWING AND COLOURING.

It has been generally admitted, that one of the principal causes of the failure of so many persons who have attempted to attain proficiency in the highly pleasing art of drawing and colouring fruits and flowers, is to be ascribed to the want of a plain practical guide, by which those difficulties are obviated which are the usual attendants on the elementary efforts of any scientific pursuit. By a faithful adherence to the following instructions, an easy path will be opened to the removal of those difficulties, and the pupil will find himself gradually advancing to a positive degree of excellence in the art.

The subjects which will be introduced into this Work are close imitations of nature; and, in the first place, the pupil is recommended to make an outline on a piece of paper, from the plain plate, in as correct a manner as possible, as this may be considered to be the preliminary towards the attainment of perfection. He must then proceed to practise the colours upon it, according to the instructions given, and afterwards colour the plate itself. The pupil, however, should not rest satisfied with merely copying the drawing, but he should endeavour to procure a specimen of the subject, making a fresh outline, and then colouring it after nature. A reference then to the same fruit or flower coloured in this Work, by exhibiting to him the delicate touches and tints which may be wanting in his own, will gradually lead him on to make an accurate drawing, and to colour it faithfully from nature.

Previously to entering upon a description of the colours to be used for each subject, the following observations will be found useful, and which will be regularly continued as the Work proceeds.

After having made a correct outline, the pupil should prepare his palette for his colours, putting a small piece of prepared ox-gall in the water, which will greatly assist the first tints, and in several cases it will be found of essential benefit in laying on the shadows. The greens are the first colours to be commenced with, and which may be considered as a good preparatory lesson to the more delicate parts of the drawing. The first tint should be laid on as even as possible, taking care not to leave the edge or outline of the colour rough, as it cannot afterwards be improved, without rendering it heavy, and injuring the general effect of the drawing.

The tint of green should be a shade or two lighter, and generally colder, or more blue in those parts of the drawing which are intended to appear distant. In those objects which are round, the outline should be scarcely perceptible.

CACTUS JENKINSONII.

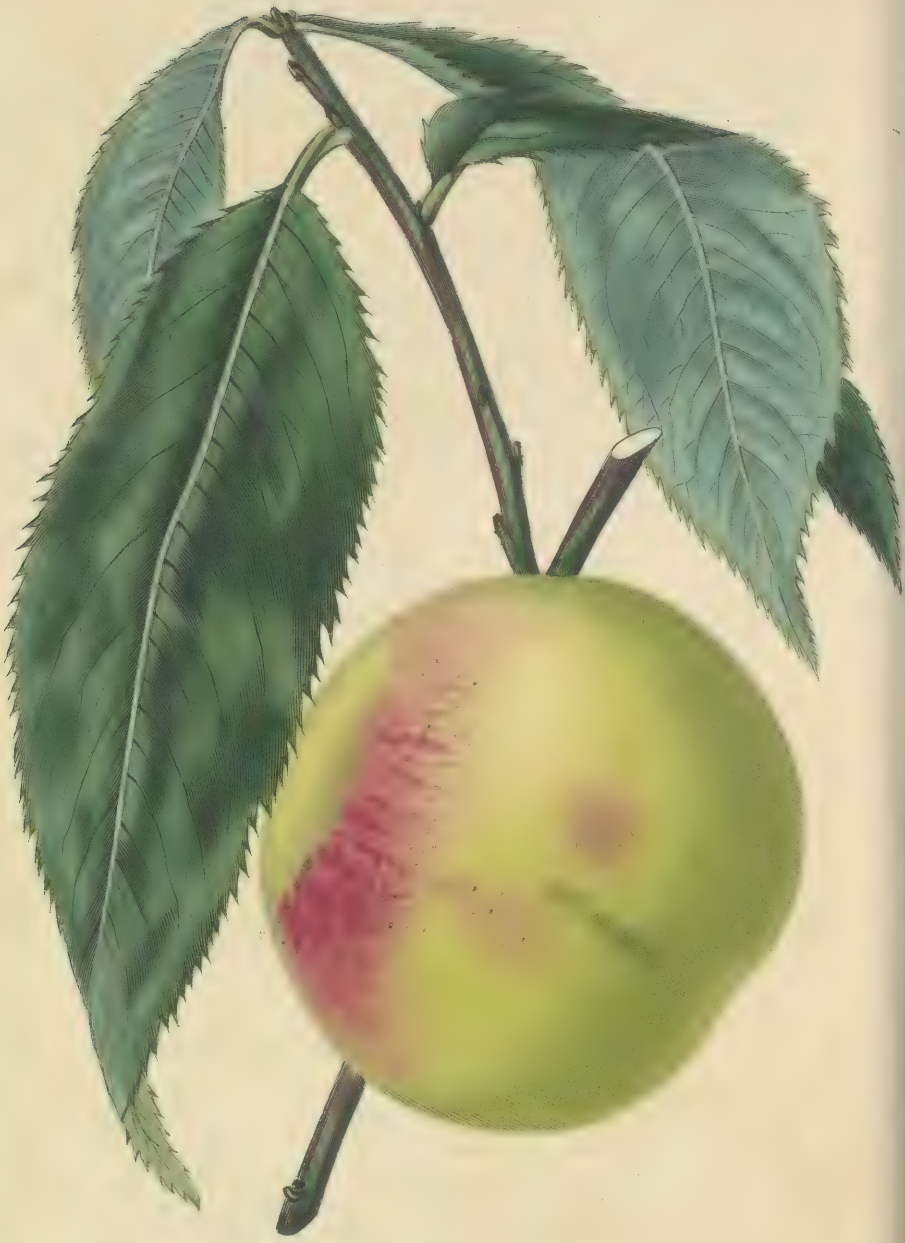
For the stem of this flower, which is more or less tinged with red, the first tint should be lake, gradually softened off: gamboge and Prussian blue should be mixed for the green, until the desired colour be obtained, which should then be passed all over the stem, and the shadows worked in with a mixture of Indian yellow and Prussian blue. The brilliancy of this flower is so great, that it is impossible to equal it in water colours; it is necessary, therefore, that particular care be taken that no sediment nor dirt be incorporated with the colours or the water. The first tint should be chrome, with a very small portion of red lead; the second tint, powder carmine mixed up with hartshorn, passing over the first tint, and then finished off with the same, using a little gum-water with the colour. The shades are made by a light tint of purple, which is made by mixing Prussian blue with lake. The same system is adopted with the bud, with the exception of using rather a less quantity of chrome. The stamens are a very light tint of gamboge shaded with grey, which is made by a mixture of gamboge, Prussian blue, and lake.

CALCEOLARIA CORYMBOSA.

The stem or stalks should be first gone over with a light tint of carmine, then apply a very light tint of green, composed of a very small portion of Prussian blue mixed with gamboge: the shade of the same colour must be rather darker. It will be necessary to remark, that the shades of this flower should be laid on first by a mixture of the three colours—Prussian blue, gamboge, and lake, producing a warm grey, which should be laid on lightly: a tint of chrome will form the yellow of the flower, which must be finished off with the same colour, rather of a deeper tint; and to those parts of the flower where the shade is a little bright, gamboge should be laid on, which will impart to the whole an appearance of greater transparency. The ground colours being properly laid on, proceed to put on and finish the touches with carmine.

GREEN-FLESHED CANTALOUPE MELON.

In the first place, colour the whole of the fruit with a tint composed of Indian yellow and Prussian blue; then lay on rather a deeper shade of the same colour, in parts. A mixture of Indian yellow and indigo composes the third tint, to which, in some parts, a little lake should be added, for the purpose of imparting to it a greyish appearance. To produce the yellow shade, a little Indian yellow should be used. These tints being finished, proceed to lay on the brown touches with white and sepia, rather dry, after which, touch them again in parts with sepia alone. The stalks and stem of the fruit should be coloured with Prussian blue and gamboge, and shaded with the same: the shades of the flowers should be laid on first with grey, made of Prussian blue, lake, and gamboge, and when quite dry, lay on the yellow with bright gamboge, and finish off with the same.



II.

NOBLESSE PEACH.

Figured in Hooker's Pomona, T. 21.*—*Described in Forsyth's Treat.* 18; *Ency. of Gard.* p. 714; *Abercrombie's Gard. Dict. art. Amy.*; *Miller's Gard. Dict.* (who writes it Noblest); *Nicol's Cal.* 4 *Ed.* p. 162; *Pract. Gard.* p. 479; *Mr. G. Lindley, in Hort. Trans.*, vol. v. p. 539.—*Enumerated in Hort. Soc. Fruit Cat.*

THIS APPEARS TO BE THE SAME AS MELLISH'S FAVOURITE OF THE NURSERIES.

It is unquestionably one of the best peaches for general purposes in cultivation, being equally valuable in the peach-house, and on the open wall. It is by no means a delicate tree, and is a very great bearer, ripening its fruit in ordinary seasons in the latitude of London about the beginning of September.

FRUIT, middle sized, roundish, finely marbled with a purplish red when fully exposed to the sun, paler, as in our figure, when much shaded with leaves, or in a season when there has been little sun-shine.

FLOWERS, large.

LEAVES, glandless and serrated.

GENERAL OBSERVATIONS.—The want of arrangement has always been a drawback in the acquirement of a scientific knowledge of pomonology, and until a perfect classification be effected, much confusion must necessarily exist. Several ingenious attempts have been made towards establishing a scientific classification of the fruit under our consideration; the first of which was by Miller, in the Eighth Edition of his Gard. Dict., and Duhamel, in his valuable work on Fruits, vol. ii. p. 1, &c. They, however, went no further than to divide peaches from nectarines, cling-stones from free-stones, those that had large flowers from those which produced small ones, and such as had serrated from those having crenate or smooth leaves.

Mr. Robertson, of the Kilkenny nurseries, has gone a step further, and has the merit of forming the first synoptical distribution of this fruit on record. He divides his arrangement into two classes, founded on the leaves: the first, including such as have no glands; the second, such as have glands, without attending to their shape or position. These classes are arranged in divisions, founded on the size of the flower; and these again into sub-divisions, dividing the cling-stones from the free-stones.

* Mr. Geo. Lindley asserts that the figure of this peach in Hooker's 'Pomona' is incorrect, and he supposes it to have been taken either from an imperfect specimen, or from a Vanguard peach, which approaches to the Noblesse in all respects, except that the crown of the latter is usually a little pointed.

Poiteau, in the 'Bon Jardinier,' and the Count Lelieure, in his 'Pomone Française,' have extended the scale of classification, which they found on the fruit, by introducing a third division of flowers, as well as by introducing characters founded on the glandular leaves.

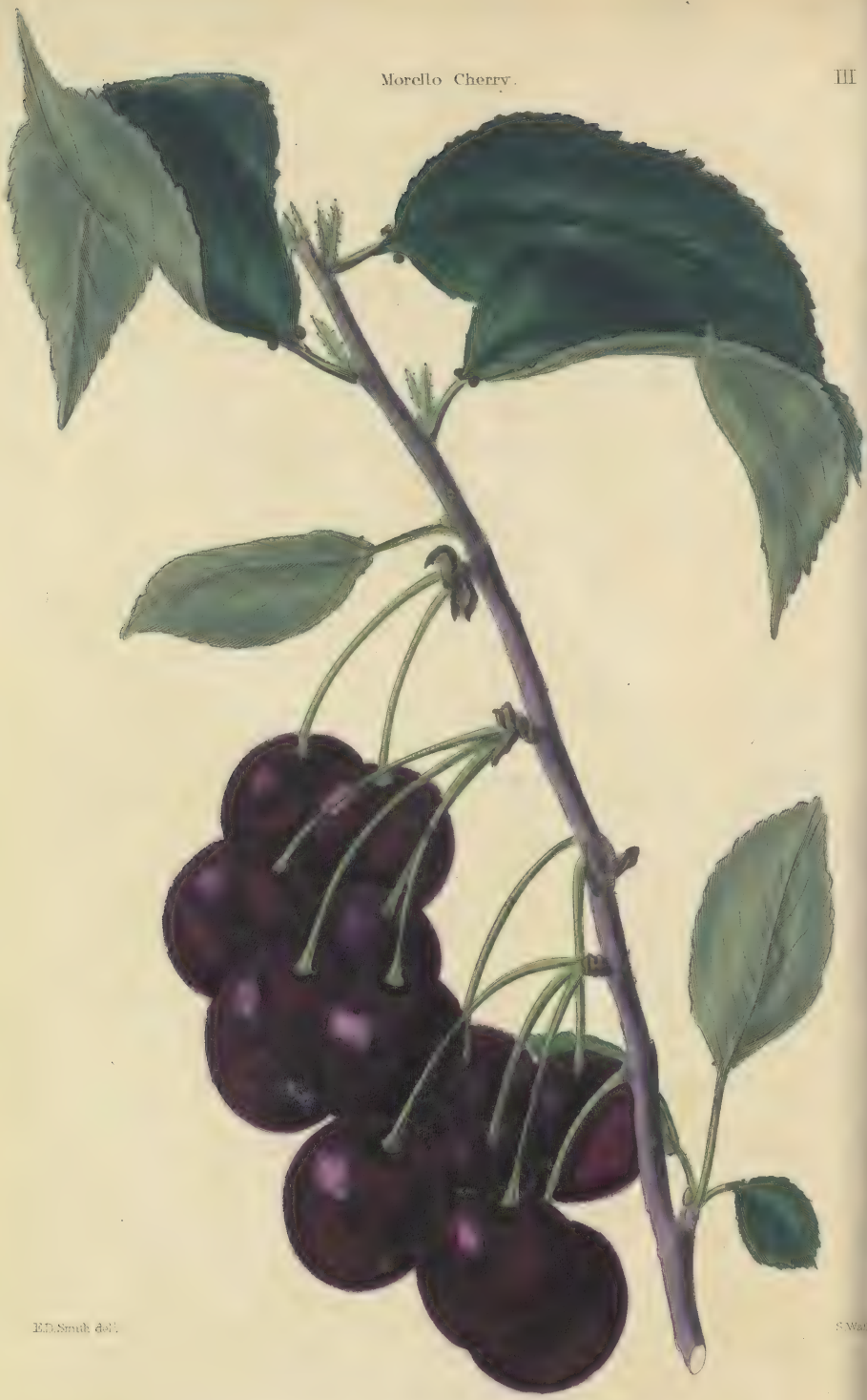
But the most complete classification is that of Mr. George Lindley, and detailed by him in the Transactions of the Horticultural Society, vol. v. p. 528. This system consists of three classes. The first contains those, the leaves of which are deeply and doubly serrated, and destitute of glands; the second, those the leaves of which are crenate or serrulate, having globose glands; and the third, those whose leaves are crenate or serrulate, and having reniform or kidney-shaped glands. Each class he forms into three divisions, founded on the size of the flowers; viz. large, middle, and small flowers. These divisions are again formed into sub-divisions, founded on the smoothness or downyness of the fruit, that is, into peaches and nectarines. And, lastly, these sub-divisions are arranged in sections, distinguishing cling-stones from free-stones or melters.

It is to be regretted that neither of these arrangements has been considered sufficiently complete, to be of much real use to the practical pomonologist. That of Lindley, however, has the merit of simplicity and system, and until a more perfect arrangement be devised, it is worthy the attention of every cultivator of this fruit.

It is rather a singular circumstance that we are at this day exactly in the same situation, in regard to systematic pomonology, in which the botanists were, prior to the middle of the sixteenth century, for want of a scientific arrangement of plants. To effect an end so desirable, we must confess, in this enlightened age, that we want a Gesner, a Cæsalpinus, a Morison, a Ray, a Tournefort, and a Linné. In less than two centuries, by the exertions of such men, the systematic arrangement of plants was completed. Let us therefore hope, seeing we enjoy so many important advantages, that in a much shorter period, the produce of our fruit-gardens may be as rationally and satisfactorily arranged into divisions and sub-divisions, as the inhabitants of our flower-gardens and stoves are now into classes and orders.

In this country, as there are but few peaches that attain perfection in the open air, in the generality of seasons, it is therefore much more advisable to limit our collections to fewer sorts, than for the mere sake of variety to cover our walls with those that will only be but imperfectly ripened, even in the best of seasons.

Free-stones, the division to which our present subject belongs, are best adapted for this purpose; and it may be mentioned, in addition to the other good properties of the Noblesse, that it is less liable, even in indifferent situations, to mildew (the *Sporo'trichum macrospo'rum* of botanists) than most other peaches.



E.D.Smith del.

S.Watts

London, Published by Thomas Kelly, Paternoster Row 1829

III.

MORELLO CHERRY.

Described in Forsyth, p. 10; *Nicol's Gard. Cal.* p. 169; *Abercrombie's Gard. Dict.*; *Miller's Gard. Dict.*; *Pract. Gard.* p. 490; *Ency. of Gard.* p. 726.—*Enumerated in Hort. Soc. Fruit Cat.—Figured in Langley's Pomona, T.* 16.

THE MILAN CHERRY OF SOME AUTHORS.

Fruit, middle-sized, round, light red, but turning nearly black when fully ripened; flesh soft and acid, ripens in September, and will remain in perfection on the tree, till destroyed by frost; produced on the wood of the preceding season.

Wood, very slender.

Flowers, large, opening late, by which means it often escapes the vernal frosts.

This cherry has long maintained a place in the fruit-gardens of this country, and is supposed by some to have been introduced from Milan, and hence is often known by that name.

Although it cannot be put into comparison with the Dukes and other high-flavoured fruits of the same family, still its merits are very great, not only as a dessert fruit, when fully ripened, but also as the best cherry in cultivation for every purpose of the cook and confectioner, and is much used in making cherry brandy.

Its extreme hardiness and great bearing claim for it a place in every garden, and it prospers alike on walls, standards, or espaliers. It has also been successfully forced, and although for the latter purpose it does not ripen its fruit equally early with the May Duke, or other early cherries, still it is a more certain setter, and admits of a species of pruning extremely well calculated for trees cultivated in pots. The fruit also, when forced, attains a superior flavour and much larger size.

In the open air it is usually planted as a standard, or against walls having a northern exposure, by which means it is late in ripening, and capable, with the protection of nets, to guard it from birds, and afterwards with mats or canvas, to protect it from frost, of continuing in a perfect state till November, and thus lengthening out the season of this fruit for nearly half the year, that is, from the beginning of June, when the early cherries come in, till the Morello is destroyed by the autumnal frosts.

This cherry is often used for stocks on which to graft or bud other sorts that are bad bearers, when the object is to produce dwarf and prolific trees; and this practice appears to a certain extent to produce the same effect as the paradise stock has on the apple.

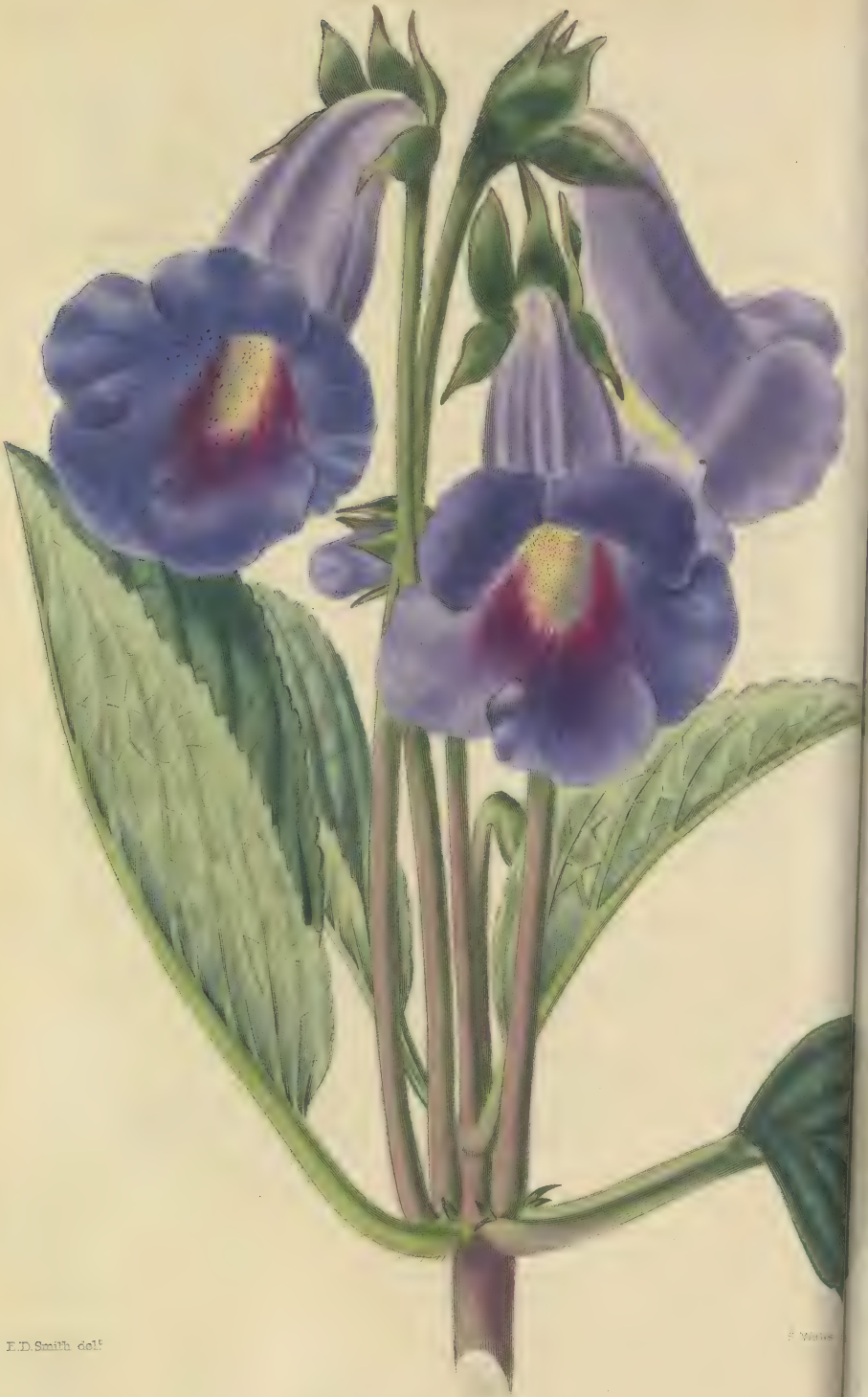
Although the Morello be usually planted as a standard, or on the worst walls, a tree or two should nevertheless be accommodated with a southern aspect, and in that case would amply repay the owner both in the abundance and increased flavour of the fruit.

In regard to pruning, the Morello requires a different method than that which is applied to other cherries, the fruit being produced principally on the shoots of last year, but seldom and sparingly on close spurs formed of the two years old wood, and very rarely on wood of the third year. It is therefore necessary to encourage a supply of young wood regularly all over the tree, from the stem to the extremities, for the production of fruit-buds; and in order to make room for this succession of young wood, a degree of judgment is necessary in selecting that which is older and past bearing, for the purpose of removing it, to allow sufficient room for that which is to bear fruit in its turn. No spurs should ever be encouraged, and all foreright shoots should be displaced while young, by disbudding. The bearing wood should never be laid in closer than six or seven inches apart, for when laid in too thick, it very often happens that although there may be abundance of blossom, the fruit may nevertheless be scanty, even when the season is good. The unnecessary number of flower-buds which expand under such circumstances, greatly weaken the tree, and rob one another of their due share of support, so that not only a great portion fall off without setting, but also a great fall will take place at the season of stoning.

Fruit-trees too frequently suffer more or less from being over-crowded with wood, and none more generally than the present subject.

Proportioning the bearing branches to the circumstances of the tree, cannot be too much attended to; and in many cases, displacing flower-buds early in the season, when they appear too abundant, would be attended with good effect. On examining the blossom of the cherry, when crowded with bearing wood, or when there is an over-abundance of bloom expanded, it often occurs that out of one hundred flowers, not two will be perfect, and consequently a proportioned failure in the crop may be expected.

Gloxinia caulescens



F.D. Smith del.t

S. Watts

London Published by Thomas Kelly, 17, Paternoster Row, 1829.

No. 3.

GLOXI'NIA CAULE'SCENS.

PERNAMBUCO GLOXI'NIA.

Class 14. DIDYNA'MIA.*

Order 2. ANGIOSPE'RMA.†

Natural Order. GESNE'RIEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Pernambuco.	1826 ?	Bot. Reg. No. 1127.	Stove.	Peat and loam.
Time of Flowering.	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
August.	From 1 to 2 feet.	Miller's Gloxi'nia.	Cuttings.	Perennial.

GENERIC CHARACTER.—Calix superior, five-leaved. Corolla, bell-shaped, with the border oblique. Filaments, four, with the rudiment of a fifth, inserted into the receptacle.

SPECIFIC CHARACTER.—Stem upright, purplish tinged, cylindrical, and fleshy. Leaves oblong, blunt, notched round the margin, which is revolute (or rolled backwards), downy. Footstalks thick, veins beneath very prominent; whole leaf, thick, and rather fleshy. Flowers solitary, sometimes two, situated on long footstalks, which are downy, and, like the stem, tinged with purple, and issue from the angle formed by the leaf and stem. Calix oblique, with sharp-pointed imbricated segments, differing little from that of *G. Specio'sa,* to which the whole plant bears a striking resemblance, except in magnitude and stem, which has led some to consider it as only a highly cultivated variety of that plant. Corolla somewhat curved, drooping, fleshy, velvety, with roundish waved, imbricated, nearly equal segments; the middle one, however, being heart-shaped.

* DIDYNA'MIA, the name of the fourteenth class in the sexual system, and is derived from the Greek words, *dis,* twice, *dyo,* two, *nema,* a filament; and consists of plants with hermaphrodite flowers, having four stamens, or male organs, two of which are long and two short, by which it is easily distinguished from the fourth class, which has also four stamens, but these latter are always of the same length.

† ANGIOSPE'RMA, the name of the second order of the fourteenth class, and is derived from the two Greek words, *aggeion,* a vessel, and *sperma,* seed, that is, having seeds enclosed in a covering or vessel, in opposition to Gymnospe'rma, the first order of the same class, and which consists of plants, the seeds of which are placed naked in the bottom of the flower cup, without any external covering whatever.

The GENERIC NAME, Gloxi'nia, was given in honour of Ben. Petr. Gloxin, of Colmar, and author of 'Observationes Botanicæ Argent.'

The SPECIFIC NAME, Caulescens, from its having a stem or trunk, in opposition to *Acu'lus*, stemless, or without a stem.

GENERAL OBSERVATIONS.—This splendid plant was imported from Pernambuco by Mr. Miller, the spirited proprietor of the Bristol Nursery, and made known to the public by a drawing taken in that rich collection, by Miss Mintron, and published in the Botanical Register for February, 1828.

Our drawing was taken from a plant in the splendid collection of Mr. Colvill, King's Road, and is somewhat different to that which was figured from the Bristol Nursery, as will appear by comparing the figures and descriptions. We have frequently observed highly-cultivated specimens of *G. Speciosa* so trained as to attain a considerable stem, still, however, we are satisfied that they are two distinct species.

The genus Gloxi'nia is of easy culture, requiring, in order to have them in the highest perfection, the temperature of the stove, while in a growing state; but while inactive, they may be placed on any dry spare shelf, where they should remain rather dry until they either naturally show signs of vegetation, or are brought to that state by the application of water. They are found to prosper luxuriantly in any light rich mould, indeed the lighter it is the better; and are often brought to high perfection when planted in chopped moss, *Sphágnum*, &c. with a portion of rotten dung. They are increased by suckers, dividing at the roots, and by cuttings. When propagated by the latter process, they should not be covered with a glass, as inducing a tendency to damp. The leaves of all the genus will strike root in pure sand, if taken off close to the stem. Our present subject is the most impatient of cold of all the family; the others may be successfully cultivated in any ordinary green-house. Many cultivators fail in growing this genus, from keeping them constantly in a state of excitement. With most of the plants of the same natural order, they succeed best when allowed to rest for some time after producing their flowers; and when put into action again, will make larger plants, and produce flowers much finer and with greater certainty.

In continuation of the observations in page 2, we refer the pupil to the *Melon,* Plate I., the outline of which, if made dark, having a white back ground, would not appear to recede, although the reverse would be the case, if upon any other ground than white, all objects being governed more or less by the back-ground, according to the distance that they are intended to appear from it. For laying on the first tints a brush of rather a large size, but terminating in a fine point should be used, as well as for the smaller parts of a drawing, as nothing tends more to give a rough and unfinished appearance than a small one, which is too often supposed requisite to make a highly-finished drawing, and with which it is impossible to lay on a colour of any extent, in that even manner which the first tints require.

The pupil should be particularly guarded against making the outline so dark as to render it necessary to rub it out after the colour be laid on, which not only disturbs the tint, and renders the paper rough, but at the same time prevents the colours which are to be laid over it appearing smooth, and wanting in clearness. Particular attention ought also to be observed, not to take too great a quantity of colour in the brush at once, but only in proportion to the space to be covered, and to commence with the top of the part to be passed over, drawing the colour downwards, and taking care not to leave the margin of any part of the tint long without going on with it, because if allowed to dry before finishing, the colour will not unite with it, and will cause an uneven surface, which will be productive of a great deal of trouble to improve it. The pupil should avoid the use of gum-water as much as possible in the first tints, unless it be necessary to create brilliancy, as it will be found difficult to pass over the colour without removing it from the paper; but prepared ox-gall will have the contrary effect, as it tends to cause the colour to sink into the paper, or if the surface be at all greasy, it will enable the colour to pass over it without any difficulty; but this must be used cautiously, for, if too profusely, it will settle the colour into the paper so quick, that an even tint will not be produced.

NOBLESSE PEACH.

First, a tint of lake over that part of the branch or shoot which appears red, and when dry, lay over the green, formed of Prussian blue and gamboge, and shade with the same colour stronger. The leaves may be proceeded with in the same manner, using more or less yellow, as the occasion may require. When all the tints are quite finished, the veins may be put in, the light ones with king's yellow and a little white, the others dark green; after which, pass over the teeth with a little green or very

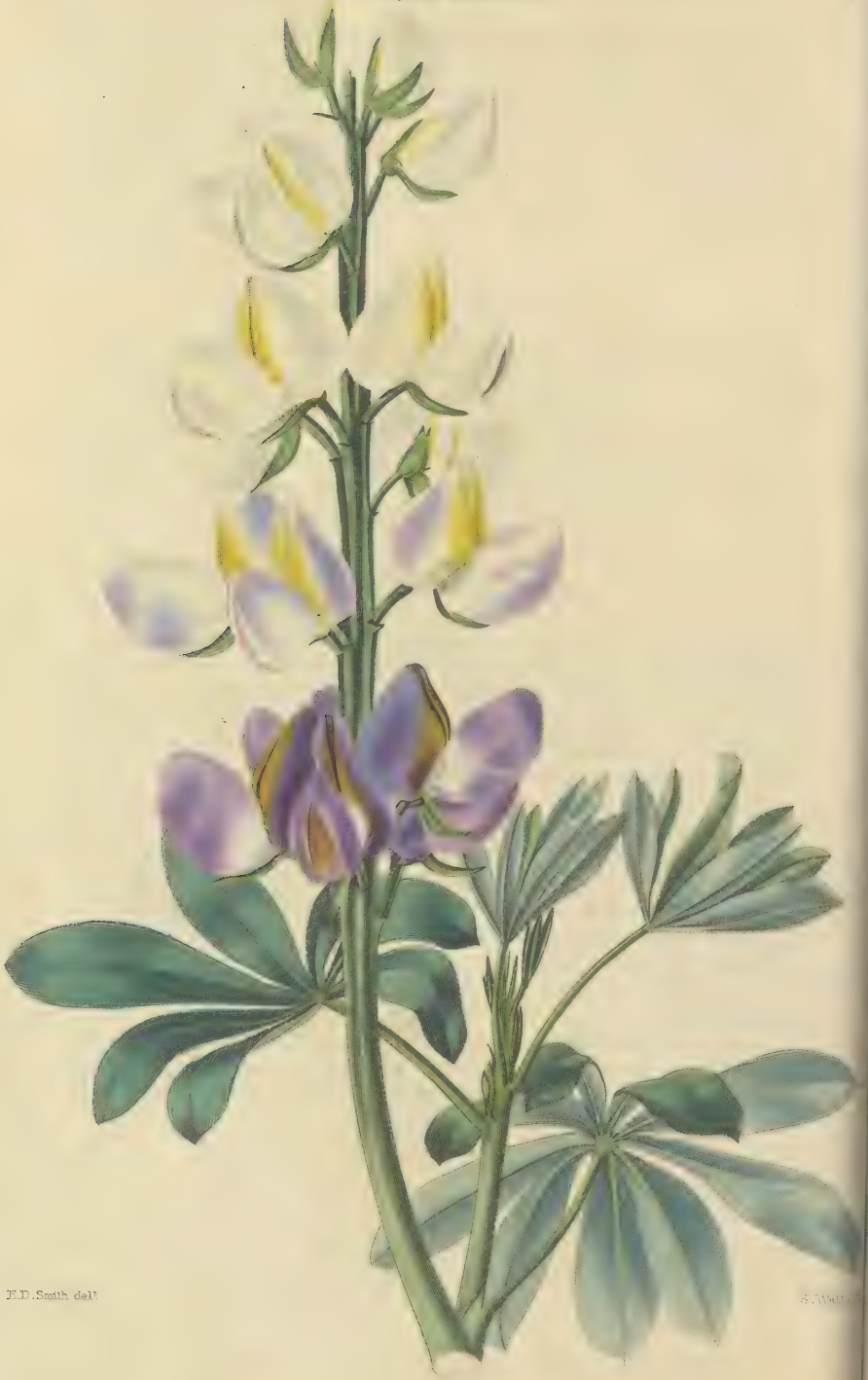
yellow. The delicate appearance which this peach possesses, requires that the colours should be carefully laid on in a light and soft manner. First lay on the shade of a warm gray, made with Prussian blue, gamboge, and lake, softened off towards the outline; then wash a tint of gamboge all over, after which, repeat the gray in small touches, until a soft appearance is produced. This being done, lay on a little Indian yellow carefully, using prepared ox-gall with all the tints, as it will cause the colour to sink into the paper, and give a softer appearance. Finish by laying on the carmine and repeating it until sufficiently dark.

MORELLO CHERRY.

The first tint of green is made with Prussian blue and gamboge, shaded with Prussian blue and Indian yellow, the veins of dark green, and go round the teeth with lake. For the branch or shoot, use a mixture of indigo and lake. For the shade, a little sepia, mixed with the former colour. For those parts which are quite brown, use sepia. For the fruit, mix lake with indigo, and shade with the same colour stronger; after which, wash over parts of the fruit with carmine and a very little Indian yellow, using gum-water in some of the latter tints.

GLOXINIA CAULESCENS.

First lay on a light tint of lake on those parts of the green stalk or stem which have a red appearance, then lay on a light tint of green, formed of Prussian blue and gamboge. For the front of the leaf, which is of a darker green, mix Indian yellow with Prussian blue, and shade the whole of the greens with the same, making it more or less yellow, as it may require, using prepared ox-gall with the colour, which will impart a greater degree of softness; and in the finishing, a little more lake will be required in some parts of the stalks and calyx. The hairs upon the plant should be put in with a neutral tint, which may be made of Prussian blue, gamboge, and lake. Care will be required in laying on the colours of this flower, in order to give that soft velvet appearance, for which the gall will be found of great use. First lay on a light tint of purple, made with azure blue and powder carmine mixed up with hartshorn, then go over the darker parts of the flower with the same, of a deeper shade. A little carmine forms the red tint in the tube of the flower; after which, finish the purple of the flower with azure blue, adding in some parts a little Prussian blue and carmine, to give depth to the colour, observing to use a little gum-water in the latter tints, a little gamboge for the yellow, and for the shadow in the tube, and at the insertion of the flower, a little neutral tint, made of the three colours before mentioned; after which, put in the small dots in the centre with carmine.



F.D. Smith del.

London Published by Thomas Kelly [illegible]

No. 4.

LUPI'NUS MUTA'BILIS.

CHANGEABLE LUPINE.

Class 17. DIADE'LPHIA. — *Order* 4. DECA'NDRIA.

Natural Order.
LEGUMINO'SÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Bogota.	1825.	Sweet's Brit. Flower Gard. No. 130.	Flower Garden.	Any good Garden Mould.
Time of Flowering.	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
Aug. to Nov.	From 2 to 4 feet.		Seeds and Cuttings.	Annual?

GENERIC CHARACTER.—Calyx, two lipped. Corolla, papilionaceous. Filaments, ten, united, somewhat ascending. Anthers, five, roundish, and as many oblong. Pistil, awl-shaped, compressed, villose. Style, awl-shaped, ascending. Stigma, terminating blunt. Pericarpium, or seed vessel, a large legume, oblong, coriaceous, compressed, acuminate, one-celled. Seeds, several, roundish and compressed.

SPECIFIC CHARACTER.—Flowers, generally in fives, in whorls irregularly placed round the stem. Peduncles, or foot-stalks of the flowers, lateral, stiff, and upright. Petioles, or foot-stalks of the leaves, smooth, glaucous, almost round. Leaves, digitate, or divided into from seven to nine lobes, like fingers, oblong, lance-shaped and blunt, when fully grown; much narrower and more sharp-pointed while young. Stem, upright, half shrubby, quite smooth, as well as the branches which are many, spreading, and slightly angular.

The GENERIC NAME, Lupínus, is of very doubtful derivation, some say from *Lupus*, a wolf, because the plant devours, as it were, all the fertility of the soil in which it grows.

The SPECIFIC NAME, Mutábilis, from *mutable*, changeable, inconstant, on account of the flowers changing their colour.

GENERAL OBSERVATIONS.—Some of the plants of this genus are very old inhabitants of our gardens, and still maintain a very popular character. It appears by the *Hortus Kewensis*, that three of them were cultivated by Gerard previously to 1596. So late as 1826, we find only fifteen enumerated in Sweet's Hortus Britannicus as being in cultivation; but in the

course of the same year, an addition of fourteen new and valuable species was made to this list by the indefatigable exertions of Mr. David Douglas, a botanical collector, employed by the Horticultural Society in exploring the rich vegetation of the almost untrodden territories in the vicinity of the river Colombia, in the north-western districts of North America.

Nor is it only for the introduction of the plants of this individual genus that the botanical world is indebted to Mr. Douglas; for it may with propriety be affirmed, that no other traveller, in the same period of time, has introduced by individual exertion, and in defiance of so many discouraging obstacles, so great a number of really valuable plants to our gardens, the majority of which being hardy, and many of them extremely beautiful, and of easy culture, renders the acquisition of them the more important.

The present subject is a most desirable flower-garden plant, and may be said to be more properly deserving of the name of Tree Lupine, than *L. arborius*, to which that appellation has been hitherto given, but which in reality is more rambling in its growth, and requires the support of a wall or trellis; whereas, this species attains, unsupported, the habit of a stout growing tree in miniature, and sends out its branches from an erectly growing stem. The flowers possess a fragrance more agreeable than that of any other of the genus.

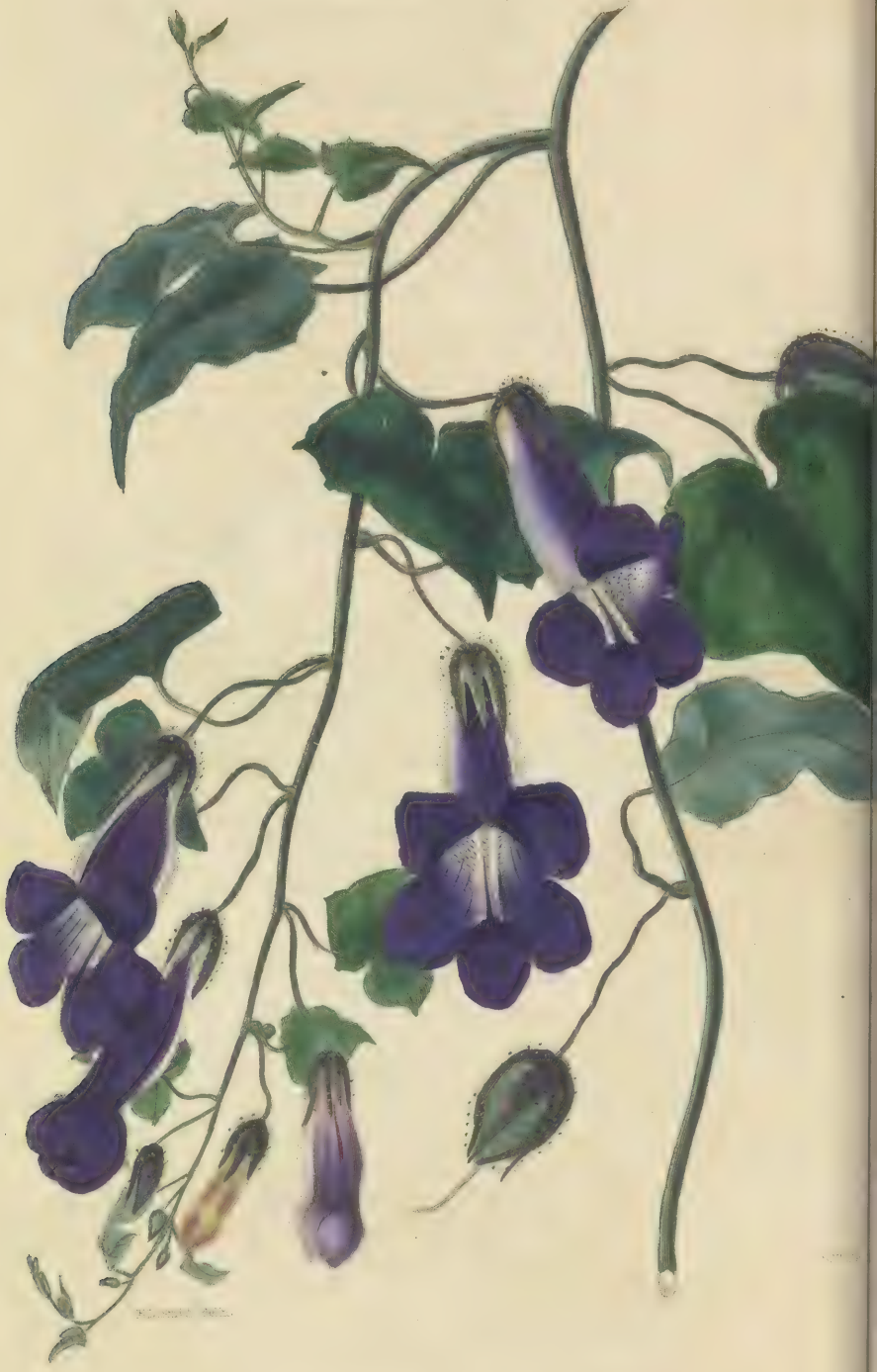
In the generality of seasons, seeds may be procured fully ripened; and, should these fail, cuttings of the lateral shoots will root, although not very freely. In cultivating this plant, it should not be planted in beds nor masses; for if it be much crowded, it loses a great portion of the interest which it possesses when growing singly. We suspect this plant is not sufficiently hardy to withstand the severity of our winters; and, also, that it is only to be regarded with us as an annual. Plants of it, growing in a warm situation, have been destroyed in November, when Fahrenheit's thermometer indicated only four degrees of frost.

The drawing of our present subject was taken from a plant in the gardens at Claremont.

This genus, independently of being interesting as flower-garden plants, has also a more important claim on our consideration. Some of the species supply wholesome food for man; and for that purpose the *L. albus* was cultivated by the earliest Romans; and to this day the inhabitants of the south of Italy cultivate the *L. luteus* for a similar purpose.

In the south of France, the same plant is sown in the poor dry soils, so frequent in that country, as an ameliorating crop, and, when nearly full grown, is ploughed down for manure.

Maurandia Barclaiana.



Published by Thomas Kelly, 17 Paternoster Row, London.

No. 5.

MAURA'NDIA BARCLAIA'NA.

BARCLAY'S MAURA'NDIA.

Class 14. DIDYNA'MIA.

Order 2. ANGIOSPE'RMA.

Natural Order.
SCROPHULARI'NEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Mexico.	1826.	Bot. Reg. No. 1108.	Greenhouse.	Peat and loam.
Time of Flowering.	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
May to Dec.	From 4 to 10 ft.		Seeds and Cuttings.	Perennial.

GENERIC CHARACTER.—Calyx, divided into five parts. Corolla, bell-shaped, unequal. Filaments, callous at the base. Capsuls, two, united; half five-valved at end.

SPECIFIC CHARACTER.—Stem, slender, supporting itself by the long petioles, or common foot-stalks of the leaves. Leaves, quite smooth on both sides, issuing singly, angular, heart-shaped, and pointed; the young ones often arrow-shaped, foot-stalks longer than the leaves. Flowers, longer than the leaves, solitary, supported on long peduncles or foot-stalks, which issue from the *axilla,* or angle, formed by the leaf and stem. Calix, divided into five parts, or segments of equal size, and terminating in sharp points, covered thickly over with long glandular hairs. Corolla, nearly three inches long, downy on the outside, quite smooth within, deep purple coloured, and of a tubular bell shape.

The GENERIC NAME, Maurándia, was given in honour of the lady of Dr. Maurandy, professor of botany at Carthagena.

The SPECIFIC NAME, Barclaiàna, in compliment to Robert Barclay, Esq., of Berry Hill, near Dorking, an enthusiastic patron of Botany, and who maintains one of the richest collections of rare plants in this country. The present plant was originated in his garden, from seeds obtained by him from its native country.

GENERAL OBSERVATIONS.—This genus consists of climbing herbaceous plants, exceedingly ornamental, and of easy culture. Being natives of the more temperate parts of Mexico, they require the protection of a green-house, or dry frame, during the winter in this country.

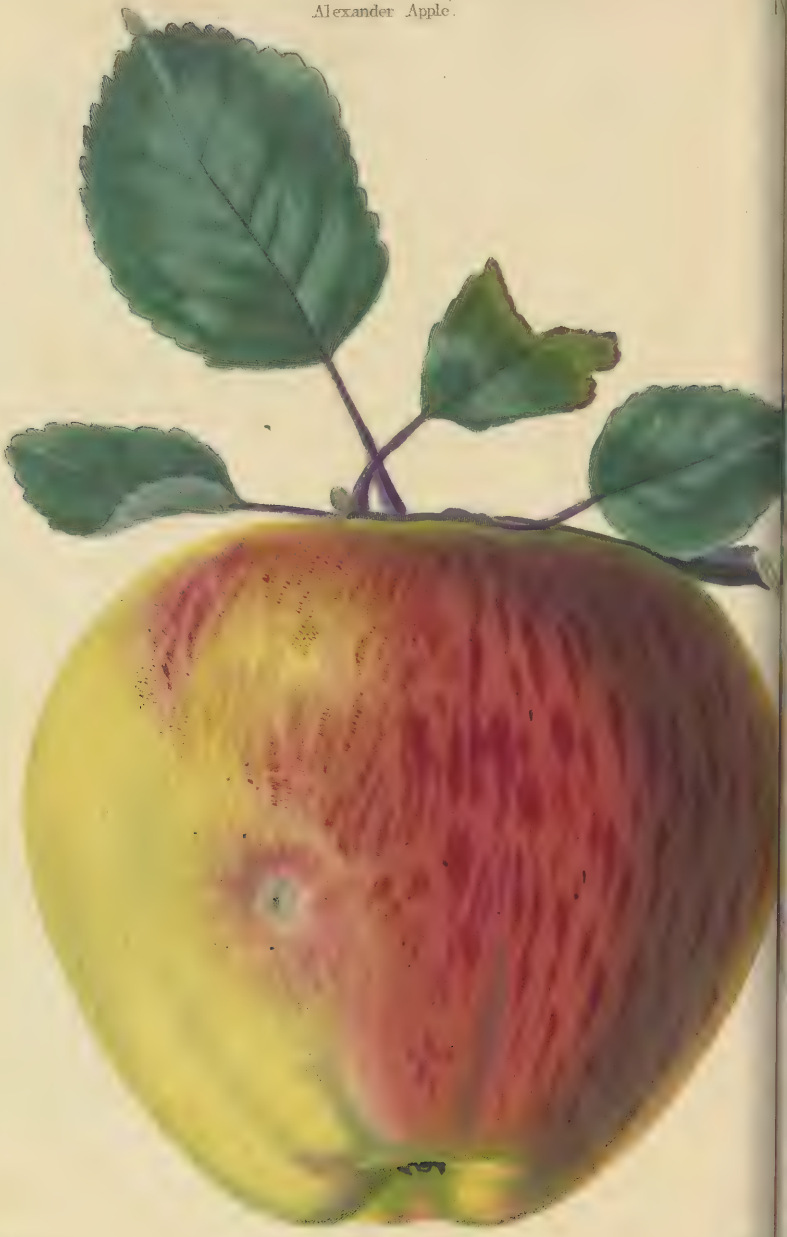
For green-house and conservatory climbers they are admirably adapted, being rapid in their growth, and continuing long in flower. During the summer months, they may be planted out in beds in the flower-garden, or trained to trellises with advantage. They seed freely, and by that means may be abundantly re-produced, as well as by cuttings taken from the lateral shoots, without shortening them. The former mode of propagation, however, is best calculated for the production of plants, that are to be cultivated as creepers, as seedlings always have a greater tendency to grow rapidly, and, consequently, are longer before they attain a flowering state, than plants originated by cuttings. The latter mode is best adapted for the production of plants intended to flower in masses or beds in the open air, as they attain a flowering disposition when quite small, and will not only flower in greater profusion, but will be more conveniently kept within bounds. They will also be less liable to suffer from damp, or the early autumnal frosts.

Many plants, which are strictly annuals, may, to a certain extent, by aid of cultivation, be advantageously changed to biennials; that is, they may be kept from producing their flowers till the season following that in which they are sown; and many plants which are perennials, although naturally producing their flowers the same season, may be improved by sowing the seeds in the autumn of the year preceding that in which they are to flower. This is particularly exemplified in the present plant, which, if not sown till spring, would not flower till the latter end of summer, and consequently be of short duration; whereas, if sown in August or September, and protected in a dry cold pit, or frame, till the latter end of April, when it may be safely planted out; it will then come into flower about the end of May, and continue till destroyed by frost. Cuttings taken off at the same time, or sooner, if rooted before winter, and similarly protected, will flower in the same manner.

Plants also of this genus, originated from cuttings, are best adapted for producing seed; and when that is the object, a number should be kept in pots, which will flower, and produce seeds abundantly.

The drawing of our subject was taken from a plant, in the rich collection of Mr. Colvill, King's Road, Chelsea.

Alexander Apple.



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IV.

THE ALEXANDER APPLE.

Figured in Horticultural Transactions.—Enumerated in Hort. Soc. Fruit Cat.—Described in Ency. of Gard.; Pract. Gard. p. 455.

This excellent Apple is cultivated under the following names:—

THE EMPEROR ALEXANDER;
THE EMPEROR APPLE;
KIRKE'S ALEXANDER;
KIRKE'S EMPEROR ALEXANDER.

This fruit is of Russian origin, and is one of the most magnificent of all the apple tribe. It deserves to be much more generally cultivated than it appears to be, for few apples add a greater splendour to our desserts; and from its hardiness, there is every reason to conclude that it may be brought to perfection in every part of Great Britain. It attains a very large size, and at the same time is rich and vinous in flavour. It is also an excellent apple for culinary purposes, affording a large portion of sauce, before it becomes too ripe, and boiling soft and uniform. We have more than once measured a fruit of this sort from sixteen to seventeen inches in circumference, horizontally, and from fourteen to fifteen, vertically.

RIPENS in November, and keeps till January and later.

FRUIT, very large, of an obtuse conical shape, delicate red and green colour. Flesh, firm and vinous.

TREE, middle-sized, very hardy, and a tolerable bearer.

Our drawing was made from a fruit kindly supplied us by Mr. Joseph Kirke, nurseryman, Old Brompton, who not only possesses one of the best, if not actually the best collection of apples in Britain, but is also himself a pomonologist of the first class. During a long life spent in collecting and cultivating hardy fruits upon an extensive scale, Mr. Kirke has become, as it were, perfectly familiar with their habits and properties, and probably possesses a greater share of practical information in respect to their nomenclature and qualities than almost any other individual. He was amongst the first commercial cultivators of fruits in this country, who not only saw the propriety, but actually put into practice, the scheme of forming a collection of trees in a bearing state, in his own grounds, from which he might be supplied with healthy and correctly-named scions for propagation, and thereby remedy the principal cause of all the confusion which has been hitherto experienced in the nomenclature of fruits, and

which, as a consequence, was certain to attend the antiquated mode of collecting scions wherever they could be procured, depending solely on the assertion of the individual from whom they are received, as to their correctness in regard to name, or state of health, &c. An arrangement of this kind presented another important advantage, namely, that many fruits have been, as it were, brought into contact with each other, thereby enabling the inquiring pomonologist, by comparison, to ascertain which were and which were really not, distinct kinds; and also to determine their several merits, as well as to point them out on the tree to purchasers.

This very rational plan has now been very generally adopted amongst the most respectable nurserymen, and is, we consider, one of the first steps towards establishing, upon a sure and solid basis, the nomenclature and merits of fruits, and will be more effectual in promoting the science of pomonology, than all that can be taught or written on the subject.

We cannot omit this opportunity of acknowledging our obligations to Mr. Kirke, for the very liberal manner in which he complied with our request, when we applied for permission to have our drawings made from his collection. We were the more anxious to obtain this privilege, as we deem it of great importance to present the public with as many fruits of one class as possible from one collection, as such fruits may reasonably be expected to be less liable to change of character, than when taken from collections indiscriminately.

It would be illiberal, were we not, at the same time, to acknowledge the advantage we may derive, from the candid and disinterested opinion of one so intimately acquainted with the nomenclature of fruits, and which of itself must stamp a certain degree of value on the present Work. In accordance, therefore, with these views, we purpose to figure our apples from the Brompton collection *almost* exclusively.

HAVING proceeded thus far respecting the first tint of green, we now enter upon the mixing of the same, and also of the particular colours that are proper to be used for the formation of different kinds of green, of which there are a great number, and which constitute such a beautiful and ornamental part of a plant. It may be very often observed, by those who examine nature, that the green of the leaves and stalks of a plant is, in general, in harmony with, or affected by the colour of the flower: for instance, a red or purple flower will, in most cases, be found to possess a stem more or less tinged with red, and the green of the leaves will be dark, in proportion to the colour of the flower.

In confirmation of this principle, it may not be considered extraneous to adduce a few examples. In the Maurandia, No. 5, the flowers and leaves are dark; the same in the Gloxinia, No. 3: on the other hand, the Calceolaria, No. 2, and the Lupine, No. 4, both of which have light flowers, the green of the leaves is in harmony with them. These remarks may, perhaps, be considered unnecessary by the superficial observer of nature; but the pupil, who wishes to attain any proficiency in the study of this beautiful part of the creation, will feel the absolute necessity of paying strict attention to the shade of green which the plant possesses.

When a stalk or leaf is tinged with red, the latter colour should be laid on before the green, by which means it will be found to approach nearer to nature, although attended with more trouble than mixing it with the green. In general, lake will be the prevailing colour for this purpose, with sometimes the addition of Prussian blue, when the object is of a purple shade. For the greens, the brightest to be used, may be made by a mixture of Antwerp blue with gamboge, and although it be not a pleasant colour to use, yet a little prepared ox-gall will greatly assist in laying it on. The next and most useful green, will be made by mixing Prussian blue with gamboge, and in some instances, when it is not required to be so bright, with Indian yellow: the third, and last, indigo and gamboge, or, as in the last case, if less bright, with Indian yellow.

It is very seldom, if ever, that the pupil will require any other colours to produce all the variety of greens in flower painting. As it is impossible to say what proportion of the two colours is necessary to produce the desired green, it is requisite that the pupil should try the colour on a piece of paper, allowing it time to dry before going on with it, as in general it will appear of a bluer shade than while wet. The pupil should endeavour to produce as warm a green as the subject will allow him, as a drawing, possessing a warm appearance, is so much more pleasing to the

eye, than the reverse. Attention should also be paid to the transparent part of the leaf, in which case it has a very yellow look from the light being behind it.

LUPINUS MUTABILIS.

The green of this plant will be produced by mixing Antwerp blue with gamboge, shaded with a green, made of Prussian blue and gamboge, in as soft a manner as possible. For the flowers, lay over the white ones a light tint of gamboge, and shade with a neutral tint of Prussian blue, gamboge, and lake. The beautiful colour to which this flower changes, after having been out some time, will be represented by a light tint of azure blue and carmine, and shaded with the same, adding more blue, and in some parts azure blue alone. When these tints are finished, lay on the yellow, of gamboge, which being put upon the other colours, will give a rich brown appearance.

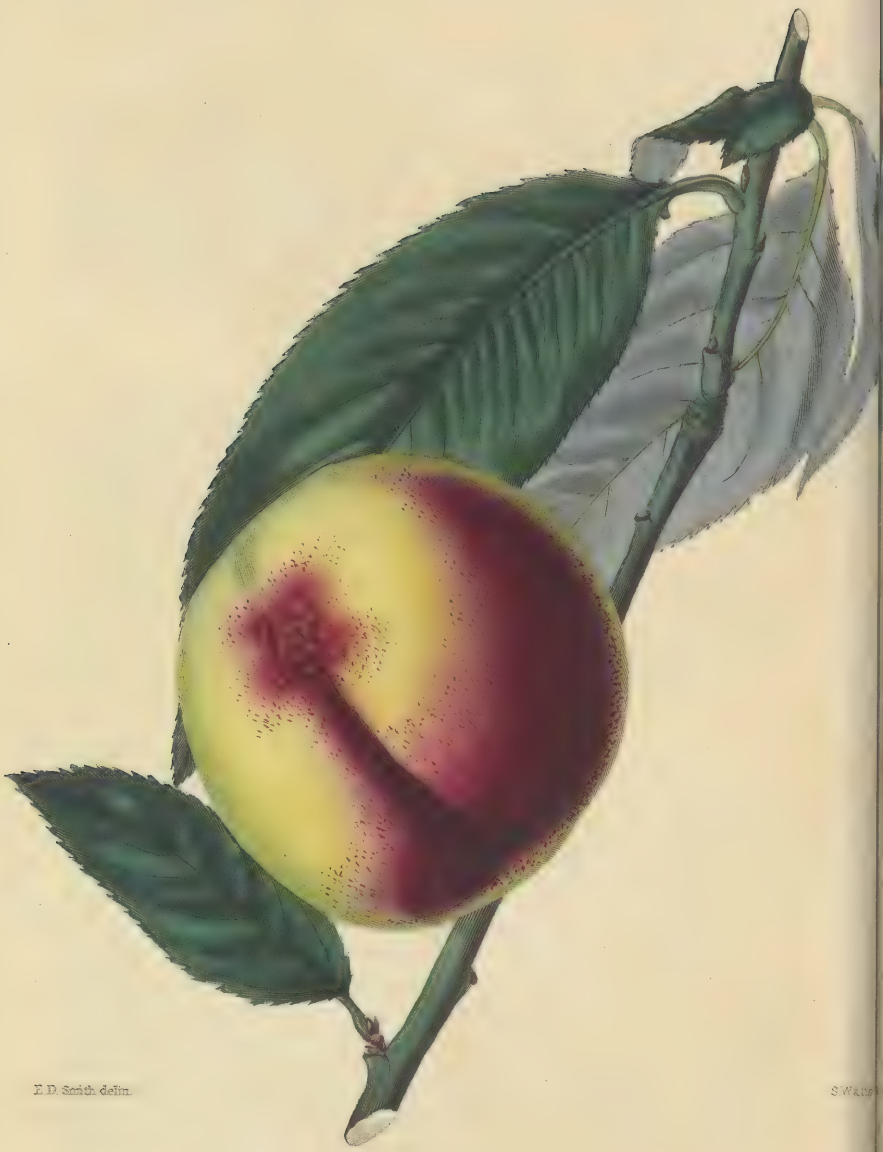
MAURANDIA BARCLAIANA.

First lay on a light tint of lake on those parts of the stalks and calyx that have a red appearance, then pass over the stalks and leaves with green, made of Prussian blue and gamboge, and shade the same with a mixture of Indian yellow and Prussian blue, producing a darker green than the first tint; the veins may be put in with the same colour, adding a little gum-water to give force to it. For the glandular hairs upon the calyx, some yellow, brown and grey, made of Prussian blue, gamboge, and lake, as occasion may require. For the flowers, first lay on a light tint of purple, made by mixing azure blue with carmine, then lay on carmine on some parts of the flower, after which some pure azure blue, and finish with the same mixed with carmine, and occasionally a little Prussian blue, to give depth. The prepared ox-gall will assist in laying on the azure blue, and a little gum-water to give brilliancy.

THE ALEXANDER APPLE.

First a light tint of green over the leaves, made of Prussian blue and Indian yellow, and finish them up with the same, of a darker tint, using a little gum-water to give depth to the shades. For the stalks of the leaves and principal vein, some lake, with a little indigo; the other veins dark green, and go round the teeth with lake. That part of the leaf which is broken, will be represented with lake and Indian yellow, adding, in some parts, a little sepia, which will also be suitable for the branch. For the apple, first lay on the shade, with a mixture of Prussian blue, lake and gamboge, producing a warm grey, which is passed over part of one side and softened off; then pass all over the fruit with gamboge. This being dry, lay on a little light green over part of the light side, after which perhaps it will require some more yellow. Having proceeded thus far, commence laying on the carmine in light touches at first, gradually increasing the colour in strength, until the right effect be produced, when it will be found to require, in some parts, a little Indian yellow. This being done, finish off the shade with warm grey; some of the darker parts of red will want a little sepia to be added with the carmine, to prevent it from being too bright.

Elruge Nectarine.



E. D. Smith delin.

S. Watts

London. Published by Thomas Kelly, 17, Paternoster Row 1830.

V.

ELRUGE NECTARINE.

Figured in Pomological Magazine, 49, *under the name of The Common Elruge, to distinguish it from the Elruge of Miller, which is supposed to be now lost from cultivation.—Enumerated in Hort. Soc. Fruit Cat.* 23.—*Described in Hort. Trans.* vol. V. p. 551; *Ency. of Gard.* p. 118; *Pract. Gard.* p. 482; *Forsyth's Treat. Fourth Edit.* p. 58.

THIS is a nectarine of the very first class, and is to be met with in very general cultivation. Indeed, it would be difficult to find a collection of any note in which this fruit does not appear; and it may be added, that its superior merits justly entitle it to such a marked distinction.

The original Elruge, or that described by Miller, either originated or was cultivated, according to Forsyth and other authors, by a person of the name of Gurle or Gurles, a nurseryman at Hoxton, in the time of Charles II., and the name is supposed to be a sort of anagram of Gurle. This latter variety Mr. G. Lindley, in Hort. Trans., vol. V. p. 541, says he fears is now lost out of the nurseries; and, to distinguish it from the modern Elruge, (our present subject,) he has for the first time pointed out the mistake, and designated the former by the name of Elruge of Miller, and the latter by that of the common Elruge, an arrangement which has been very generally followed by cultivators, and acknowledged by the editors of the Pomological Magazine.

It is rather a singular circumstance, and one that has never been satisfactorily explained, how or when this change of name took place. If the original Elruge be now absolutely lost from cultivation, no confusion can in future possibly arise. However, should it still be found to be in existence, the distinction adopted by the above-mentioned intelligent pomologist will completely set the matter at rest.

After making inquiry of many competent persons, we cannot ascertain where the original Elruge is to be found. We therefore conclude that the descriptions of the latter authors refer to the present subject, and not to the original or Elruge of Miller.

FLOWERS, pale dull red, very small.

LEAVES, crenated or notched. Glands, reniform, or kidney-shaped.

FRUIT, above the middle size, inclining to an oval shape.

FLESH, whitish, very juicy and melting, rich and high-flavoured, somewhat reddish towards the stone, from which it parts freely.

COLOUR, blood red, or deep violet, when fully exposed to the sun.

This excellent nectarine is equally valuable either in the forcing houses or on the open walls; in the latter case, ripening its fruit in the vicinity of London about the end of August or beginning of September; and instances have occurred of its ripening its fruit, in favourable situations and warm seasons, as a standard tree.

The editors of the Pomological Magazine think it probable that the Claremont nectarine is only a synonym of this sort; and they add, "There is reason to believe that the Varmash, figured by Hooker, in his Pomona Londonensis, is also a representation of the same variety." And Mr. G. Lindley, in a *note* in Hort. Trans., says, "The Claremont nectarine was raised about 1750, and the tree first produced fruit about 1759, in the Royal Gardens at Hampton Court. The late Mr. Padley, and some others, believe this to be the same as the Elruge of the nurseries." To this we may add, that it approaches very closely to the Violette Native, with which it is not unfrequently confounded in gardens. The latter, however, does not part so freely from the stone, which is also of a deep red colour, whereas that of our present subject is pale.

The drawing of our subject was taken from a fruit on a tree in the Royal Gardens at Kensington, which have been long and justly distinguished for the extent and management of their collection of fruit-trees, as well as the field, where Forsyth practised towards the close of the last and beginning of the present century. They are now under the superior management of William Aiton, Esq., a gentleman of a liberal and enlightened mind, and an anxious promoter of horticultural science.

The Courtpendu Apple.

F. D. Smith delin.

S. Wa

London. Published by Thomas Kelly, 17, Paternoster Row. 1850.

VI.

THE COURTPENDU APPLE.

Enumerated in the Fruit Catalogue of Hort. Soc.—Figured in Pomological Magazine, No. 66.

THIS excellent table apple has been disseminated pretty generally throughout England under the name of the Garnons' Apple, a circumstance, we believe, arising from its being introduced into some of the London collections under that name, from Garnons, the seat of Sir John G. Cotteral, Bart., near Hereford, where old trees of it still exist, and until it was identified to be no other than the Courtpendu, was cultivated under that name.

FRUIT, about the middle-size, round, without any appearance of angular projections, flattened at both ends, and approaching to a whorl shape, eye large and open.

FLESH, crisp, before it becomes softened by long keeping, and yellowish. Flavour, rich and agreeable; fruit-stalk, short, deeply inserted, by which reason the fruit is not readily blown from the trees. Is in eating order from November till the end of January or beginning of February; but with care, may be preserved in a sound state till the beginning of April, and will even then, although much shrivelled, which it is apt to be when long kept, still possess a considerable degree of its fine flavour.

An excellent bearer as a standard in most parts of England, and deserving universal cultivation. To have it in perfection, in unfavourable situations, it should be planted against a wall on an eastern or western aspect, and will then repay the cultivator much better than many trees, which, as yet, are permitted to occupy such situations. It very much resembles the Fearn's pippin, both in size and appearance, but of the two this is decidedly the better fruit.

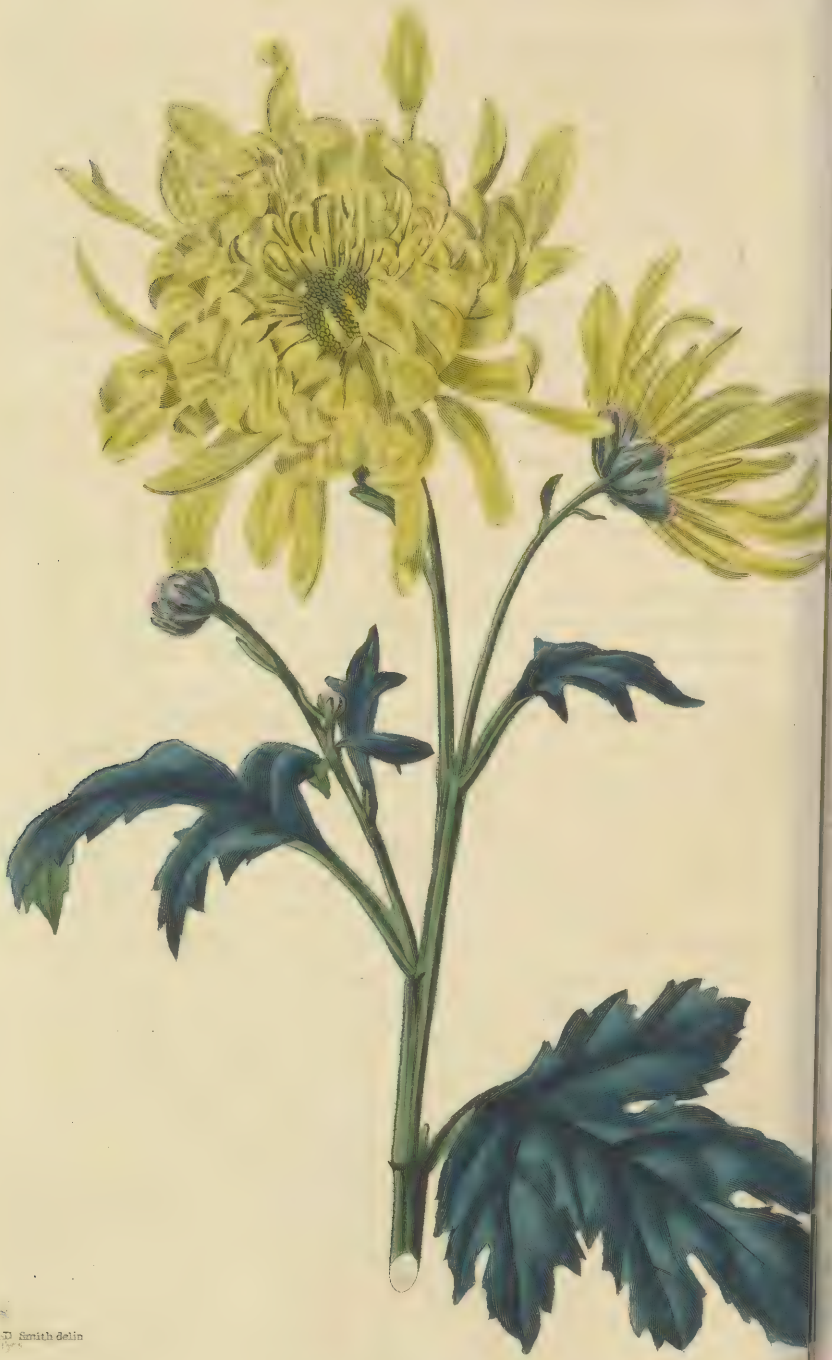
This apple is of exotic origin; but neither the date, nor the manner of its introduction into our gardens, has been satisfactorily stated. It is generally, however, supposed to have originated in France, and has been described by Duhamel and Noisette, two foreign pomologists of high celebrity. This tree is hardy and of free growth, and less frequently found diseased or infected with insects, than apples in general. The leaves are of a healthy dark green colour, which gives the whole tree a dark green healthy appearance.

In the cultivation of apples, as well as of other fruits, many disappointments have arisen from an over-anxious desire of being possessed of new

or highly recommended sorts; and, in order to gratify this desire, many have, unthinkingly, cut down or rooted up most of their good old trees to make room for others, the merits of which have been found, when too late, to be less than those that have given place to them. To obviate this, in a great degree, we would recommend, especially for small gardens, the idea of grafting all new kinds upon fully established trees; by this means, it will be ascertained whether the new sorts be worthy of more extensive cultivation, and will determine whether they be suited to the climate, soil, and situation, which are three important points to be taken into consideration. Even in gardens of large extent this practice should not be disregarded, as it not only enables the cultivator to indulge in the extent of his collection, but will at the same time extend the variety of sorts, and produce a never-failing variety for the dessert. There can be no reasonable objection to the practice of having several kinds growing on the same tree, whether they be standards, espalier, or wall-trees. Some attention, however, should certainly be paid to their arrangement. Thus, strong growing kinds should, as far as they can be ascertained, be wrought on trees of similar robust habits, while the slender delicate kinds should, in like manner, be put on those of similar growths. The late varieties, and those that are early, should also be separated, and, so far as the thing is practicable, those that approach the nearest in the chain of varieties should be brought together, by which their relative properties may be the more readily ascertained. In a garden containing only ten trees (and few there are that do not contain many more,) fifty varieties may be cultivated on this principle, by having five sorts on each tree, a number by no means too many; and thus the owner, instead of only having ten sorts, seven of which it is probable are not worth his care, will have fifty, many of which may reasonably be expected to be of great merit.

To those who plant small gardens, and are anxious for variety, the following arrangement may serve at least as a hint: viz., plant one or more, according to circumstances, pippins, pearmains, nonpareils, russets, rennets, calvelles, queenings, codlings, upon which engraft scions of each division as they may be procured, distinguishing such as are for the dessert from those for culinary purposes. The same arrangement may be extended to such kinds as do not immediately come under the above divisions. Thus a pippin, in course of years, may become, as it were, the common stock of twenty different varieties of pippins, enough to satisfy the curiosity and taste of any reasonable individual.

Chinese Chrysanthemum.



E. D. Smith delin

London: Published by Thomas Kelly, 17, Paternoster Row 1830.

No. 6.

CHRYSAN'THEMUM SINÉNSE. (SAB.)

CHINESE CHRYSAN'THEMUM. VAR. GOLDEN LOTUS-FLOWERED.

Class 19. SYNGENE'SIA.* — *Order* 2. SUPÉRFLUA.†

Natural Order.
COMPO'SITÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
China.	1824.		Greenhouse, Cold Pit or Wall.	Any good Garden Mould.
Time of Flowering.	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
Nov., Dec., Jan.	From 2 to 4 ft.	Chrysan themum Indicum, var.	Cuttings and Suckers.	Perennial.

GENERIC CHARACTER.—Involucrum,‡ hemispherical, imbricated with scales, whose margins are membranous. Receptacle, naked. Pappus,§ none.

* SYNGENE'SIA, the name of the nineteenth class in the sexual system of Linnæus, and includes those hermaphrodite flowers in which the anthers are united into a cylinder, whilst the filaments, by which they are supported, are separate and distinct. In addition to the cohesion of the anthers, upon which this class immediately depends, it is further characterized by the flowers, commonly called florets, being clustered together in heads, and inserted upon a common receptacle, which is surrounded by an involucrum, commonly but very improperly termed calyx. The name, Syngenèsia, is derived from the Greek, *syn*, together, *genesis*, origin.

† SUPÉRFLUA, the name of the second order of the class *Syngenèsia*, and is derived from the circumstance of the florets of the disk or centre being hermaphrodite, while those of the circumference, or ray, are female and superfluous.

‡ INVOLUCRUM, or, as it is sometimes termed, Involucre, is a species of calyx, chiefly restricted by Linnæus to umbelliferous flowers, and is defined by that writer, "*Calyx umbellæ a flore remotus*," a calyx remote from the flower, and is derived from *involvo*, to roll or wrap up.

When a calyx of this kind is placed under the universal umbel, it is called *involucrum universale*, a universal involucre. When it is placed under the smaller or partial umbel, it is denominated *involucrum partiale*, a partial involucre. This latter, when belonging to umbelliferous flowers, is sometimes termed *involucellum*, or lesser cover.

§ PAPPUS, is a sort of feathery or hairy crown, with which many seeds, especially those of the compound flowers, are furnished, evidently intended for the great purpose of dissemination or dispersion of the seeds to a considerable distance. The word pappus is commonly translated by down, although in the Latin language the word has the following significations: viz., grand-sire, an old man, thistle-down, and several others. In this last sense it is employed by Lucretius. (Lib. iii. l. 387.)

SPECIFIC CHARACTER.—Roots fibrous, perennial. Leaves, coriaceous or leathery; sinuated (or gashed), toothed, glaucous. Flowers, generally in solitary peduncles.

The GENERIC NAME, Chrysan'themum, is derived from two Greek words, signifying a golden flower, because many of the varieties bear flowers of a yellow or golden colour.

The SPECIFIC NAME, Sinénse, from China, its native country.

GENERAL OBSERVATIONS.—The *Chrysan'themum índicum* of Linnæus was long considered as the common parent of all those beautiful varieties, which of late years have been so popular as autumnal flowers, and which, from the facility by which they may be increased, as well as by their great beauty, have become the chief ornament of the conservatory, greenhouse, and drawing-room, at a season when the flowers of few other plants are in perfection. Many of them, also, prolong the gaiety of the flower-garden and shrubbery long after all other plants have ceased to bloom. Their origin has been occasionally doubted by modern botanists, and, amongst others, by Joseph Sabine, Esq., to whose exertions, as secretary of the Horticultural Society, we are chiefly indebted for the introduction of by far the greater number of the varieties now in cultivation. In a communication to that society, vol. V., p. 161, he expressed this doubt, and, subsequently established his position in a communication, inserted in the Linnæan Transactions, vol. XIV., p. 142, in which he proposes that the species to which these belong, shall hereafter be considered as the *Chrysan'themum Sinénse.*

The Golden Lotus-flowered variety, which we have chosen for our present subject, was brought to this country by Mr. John Damper Parks, an intelligent and prudent collector, who was sent to China by the Horticultural Society, for the purpose of collecting plants and seeds, and who was particularly instructed to obtain possession of as many varieties of this species as possible. The success of this mission has been the introduction of several varieties not before known to us; these have been described by Mr. Sabine, in the fifth volume of the Society's Transactions.

For their culture, see *Practical Gardener,* p. 886.

Our drawing was made in Hammersmith nursery, long known as the first botanical repository of living plants in Britain.

We will now enter upon the department of the flowers, and the manner in which the colours should be laid on them. This part of the plant requiring great delicacy of touch, the utmost care should be paid to the laying on of the first tints, for if too heavy or dark in the first instance, it will be impossible to recover it (in water colours) without destroying that beautiful transparently thin appearance which excites our admiration to so great a degree when we are viewing nature. In painting a flower from nature, the pupil has not only to represent the colour of the same, but, while working upon it, he should endeavour to give also the texture, which, in most instances, cannot be accomplished but by high finishing, although a bold style is to be admired, inasmuch as it produces a fine picture, and the effect is more easily obtained; yet we hesitate not to give our opinion that it is quite impossible to represent the natural appearance of a flower, it being only arrived at by a close examination of the subject. It is greatly to be regretted, that in teaching this part of drawing, it is not more generally the custom among masters to put before the pupil a natural flower, instead of a drawing, for were that the case, the study would be rendered much more pleasing, and, at the same time, more instructive.

In white flowers, the shade ought not always to be of one colour; for instance, if the flower be of a very pure white, it may be observed to partake of a greater portion of blue in the shade, which adds considerably to its whiteness, or in proportion as the flower is tinged with yellow, so will the shade be warm. In laying on the shade, it should be in as clear a wash as possible, and the fewer times it is passed over, the whiter and more transparent will it appear. Sometimes a little gum-water in the later tints will add much to the look of the flower, and which, if intended to appear very thin, the objects behind it will be seen through, and according to the colour of such object, will the shade be tinged. Further, the reflection of other colours upon a white flower should be attended to, for if a red, yellow, or any other coloured flower, be placed near a white one, it will be tinged more or less according to the distance that it is from the same. Yellow flowers are generally considered difficult to shade without causing them to appear dirty: the less degree of shadow-colour that is used the better, and in most instances it should be laid on first, using a little ox-gall with it, to prevent it from being disturbed by the other tint, it being difficult to pass a colour over yellow, and retain that clearness which is desirable. Previously to mixing up the grey, the kind of yellow that the flower possesses should be observed: the shade of some will appear very green; in some that are of a light or very cold yellow, the shade will be of a grey cast; so in proportion as the colour approaches an orange will the shade become warm; and in some, of a red or brown tint. This being

laid on, then pass over the tint of yellow; after which, the shade should have in general a stronger tint of yellow, adding a little gum-water with it, particularly if the first tint of yellow should happen to have gum in it, such as gamboge, and some others that have it ground up in the cake. If after these tints be laid on, the first shade should want a little more finishing, it must be with the point of the brush.

ELRUGE NECTARINE.

The first tint of green for the leaves may be produced by mixing Prussian blue with gamboge, and shading with Prussian blue and Indian yellow: the back of the leaves will require a much deeper blue; the veins may be laid on with the darker green. For the branch, first lay on the purple, made of lake and Prussian blue, then pass over it with the same green used before, the dark parts with sepia. After the other tints are finished, the extreme points will require a little sepia. For the fruit, first lay on a shade of the three colours before mentioned, of a warm grey; when dry, pass over the gamboge; afterwards proceed to touch on the carmine, taking care to give the dotted appearance: this being done, lay over a little more gamboge in parts, or Indian yellow, and finish up with a mixture of grey and carmine, to prevent it from being too bright, and that part which is in shade, with grey alone.

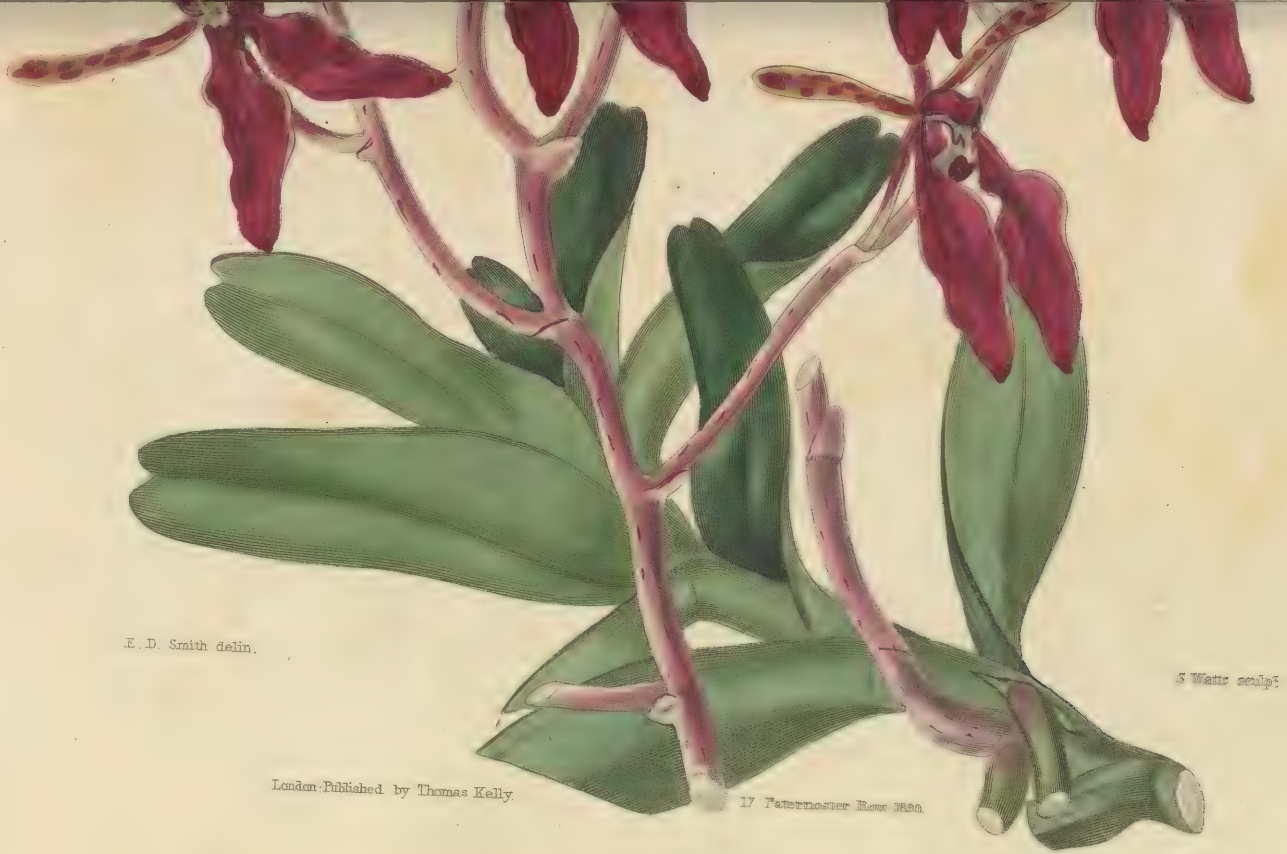
COURTPENDU APPLE.

The green of this subject will be composed of Prussian blue and Indian yellow, and shaded with the same: for the back of the leaves, add a little lake with the green, to prevent its being too bright, and to give a white appearance. The veins should be laid on with a dark green, and pass round the teeth with some lake. Sepia should be used for the stalk or branch, with a little indigo added to it in some parts. For the fruit, first lay on the shadow with a warm grey, then pass all over with gamboge; for the red, a little carmine; and those parts which have a brown appearance, sepia; after which, finish up the fruit with Indian yellow, green, and brown.

GOLDEN LOTUS CHRYSAN'THEMUM.

Use for the green of this plant a mixture of Prussian blue and Indian yellow, and shade with the same, except in those parts which have a yellow appearance; then add a little gamboge to the green, in order to give a brighter shade, particularly in the stalks, and with a little sepia and lake touch over the bud. For the flowers, first lay on the grey in a light and delicate manner, using ox-gall to cause the colour to sink in and add to its softness: when dry, pass all over the flower with gamboge. In those places that the shade is not quite strong enough, touch on some more grey, using a little gum-water, and finish with gamboge and a little chrome in parts, taking care that the colours are clean, in order that the flowers may appear clear.


Renanthéra coccínea.
7.



E. D. Smith delin.

S. Watts sculp.

London Published by Thomas Kelly 17 Paternoster Row 1820.

No. 7.

RENANTHE'RA COCCÍNEA.

SCARLET-FLOWERING RENANTHE'RA.

Class 20. GYNÁNDRIA.* — *Order* 1. MONÁNDRIA.†

Natural Order.
ORCH'IDEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	
Cochin-China.	1817 ?	Bot. Reg. 1131.	Stove.	Parasitic.‡
Time of Flowering.	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
Aug. to Nov.	From 8 to 12 ft.	Scarlet Air Plant.	Cuttings.	Perennial.

GENERIC CHARACTER.—Lip, slightly saccate § at the base. Sepals,|| very long and spreading.

SPECIFIC CHARACTER.—Stems round, furnished with few branches. Leaves placed along the stem about an inch asunder. Roots long and twisted, by which the plant attaches itself to stones, trunks of trees, &c. issuing from the branches. Leaves, from four to five inches long, dark

* GYNA'NDRIA, the name of the twentieth class in the Sexual System, and derived from the Greek word *(gyne)* a woman, and *(aner)* a man, and hence has been termed the class of Feminine Males. It contains those hermaphrodite flowers, in which the stamens are placed upon the style, or, to speak more intelligibly, upon a pillar-shaped receptacle, resembling a style which rises in the centre of the flower, and supports both the stamens and pistil. The flowers of this class do not, as is usually the case, contain a certain number of stamens surrounding a central style or ovarium, but, on the contrary, are furnished with a solitary fleshy undivided process, round which the sepals radiate, and which supplies the place of stamens and styles.

† MONA'NDRIA, the name of the first order of this class, and is derived from the Greek, (*Monos*, one, *aner*, a man,) and is also the name of the first class in the sexual system.

‡ PARASITIC, a plant growing on another; a term long ago employed by Malpighi. Linnæus makes much use of it, and has not forgotten, in his adaptation of it, to glance severely at the close clasping habits of some of his contemporaries.

§ SACCATE, bagged, having a bag or pouch, as many petals have in this class.

|| SEPALS, the segments of the calyx.

green, fleshy, obliquely emarginate at the point. Panicles,* from two to four feet long, with hard round coral-like branches. Flowers, numerous, and of long duration.

The GENERIC NAME, Renanthe'ra, is a name contrived by Loureiro, to express the kidney form, or reniform shape of the pollen masses.

The SPECIFIC NAME, Coccínea, from the deep scarlet colour of the flowers.

GENERAL OBSERVATIONS.—There is confessedly no section of plants possessing so many merits and peculiarities, that are less cultivated or known than the natural order, to which this very splendid plant belongs. The splendour and fragrance of the blossoms of some; the singular organization and eccentricity of others, certainly claim for them a place in every good collection of plants. The importations of this order, even into Europe, have been considerable, and the want of success in their cultivation, accounts for the meagre collections of them, which are to be met with even in the best establishments. Even the species which are indigenous have, with few exceptions, seldom been for any length of time successfully cultivated with us, much less those of exotic growth.

They are no less singular in the choice of their natural place of growth, than they are extraordinary in their conformation; some are deeply rooted in strong calcareous soils, while others are found scarcely attached to loose tufts of mosses, or other low-growing plants. Not a few are found suspended from the trunks and branches of lofty-growing trees, and some few seem to vegetate on the surface of the ground, and appear little effected by the changes of situation and circumstance, that the wind or the accidental tread of the traveller may occasion.

They are found in great abundance in every quarter of the globe. In the temperate parts they are chiefly terrestrial, and found in meadows and heaths, but chiefly in calcareous soils or moist mossy pastures. In the tropical regions, they are almost all parasitic, and, as such, are found in the thickest recesses of the forest, occupying the forked branches of living trees, or closely entwining themselves round them, as well as possessing themselves of the prostrate trunks of those, which are in a state of decay, and which they, in company with numerous species of cryptogamic plants, completely and curiously cover.

* PANICLES, from *panus*, the woof about the quill in the shuttle; one of the modes of inflorescence in which the flowers or fruits are scattered on peduncles, variously subdivided. In other words, it is a kind of branching or diffused spike, composed of a number of small spikes, which are fixed along a common receptacle, or footstalk. The panicle is of many kinds, such as *Panicula conjesta*, *P. densa*, *P. spicata*, *P. contracta*, *P. coarctata*, *P. patens*, *P. diffusa*, and *P. divaricata*.

The singular property of many plants of this order, of being capable not only of existing, but of growing vigorously and producing flowers and seeds for several years when suspended in baskets filled with damp moss, and some even when suspended in the air without any covering whatever, has obtained for them the appellation of air-plants, and consequently attracted considerable notice as vegetable curiosities.

The species, however, to which this appellation may be most properly applied, are found in the families of SARCAN'THUS, A'ERIDES, VAN'DA, and RENANTHE'RA. Few of the others continue long to prosper by this mode of culture. There are, however, plants in another order, that possess this peculiarity in a very striking degree, such as some species of the genus *Tillan'dsia,* one of which was observed by G. A. W. Arnott, Esq., which had been suspended from a window in the Botanic Garden at Barcelona, and had continued to prosper for fifteen or twenty years, and to have produced its flowers annually.

In regard to the cultivation of exotic *Orchideæ,* few general rules can be laid down, the circumstances being so various, and the species so numerous and of such a diversity of character, from which it arises, that what may be considered excellent culture in one, may be positively destructive to many others. As these plants in general seem to be divided into terrestrial and parasitic, it follows that a discrimination to that effect must be considered as the first step towards their cultivation. To the latter denomination our present subject strictly belongs, and the following may be considered as the chief principles of its culture in the Claremont Gardens. The plants, of which we possess several specimens, are from six to twelve feet high, and are placed in various parts of the plant-stoves. That, which flowers the best is placed over the flue, at the end where it first enters the house, and where it is very warm; from which circumstance we conclude, that want of heat is one of the causes of their not flowering generally. The plant is not in any part placed in mould, and is suspended by its curious tortuous roots to the shelves and iron supporters, to both of which it very closely fixes itself. As its roots appear, and as they extend in length, they are enveloped in moss of different species, of *Hypnum,* &c., and are allowed to hang like small bundles through the plant, which has a singular appearance. The plants are daily supplied with water, in course of the regular syringing the other plants, and occasionally, when in its most vigorous growth, a supply is given to it, probably once or twice a day, keeping the moss in which the roots are enveloped, constantly moist. No other care is necessary, so that we may conclude, a temperature varying from 70° to 80°, and a regular supply of water, are all that is required to cultivate this plant and many of its compeers in high perfection; at the

same time bearing in mind, to keep the roots covered as they make their appearance, and before they become hard or dry.

This splendid plant is conjectured to have been introduced into this country some time previously to 1817, and was only known to Europeans before that date from the reports of travellers to China, the work of the missionary Loureiro, which appeared in 1790, and from a drawing said to be in the possession of the Horticultural Society. Soon after its introduction, it found a place in the Claremont collection, from which our present drawing has been taken.

It is well known that the Chinese are much attached to plants, and also that their modes of culture are very different from ours. Amongst the peculiarities of their plant-culture, may be instanced that of suspending plants of this order in baskets from the ceilings of their rooms, in order that they may enjoy the fragrance of some, and the beauty of the flowers of others; a mode of culture not uncongenial to plants, which may be considered, in the strictest sense, as parasitic.

Amongst the many exotic *Orchideæ,* which have been introduced, few comparatively have flowered, and a great number exist only for a short period after the date of their introduction. The present subject is a solitary species, and although by no means now scarce in collections, it has never, we presume, flowered in any other than that of his Royal Highness Prince Leopold at Claremont, where it flowered for the first time in 1827, and has since continued to flower annually. It continues long in flower, and the panicle cut off, and placed in a glass of water in a cool room, will continue both its fragrance and perfection for several weeks after it has been removed from the plant.

French Mignonne Peach.

E. D. Smith delin.

S. Watts sculp.

London, Published by Thomas Kelly, 17 Paternoster Row, 1830.

VII.

FRENCH MIGNONNE PEACH.

There is no peach with which we are acquainted, that is cultivated under such a variety of names as the present subject. This observation is not confined to the collections in this country only, for we find it existing also, to a certain extent, in the continental collections.

Without regarding these, it may be sufficient for our purpose to enumerate the names by which it is cultivated in the British Gardens.

Figured, under the name of Grosse Mignonne, in Pomological Magazine, 23; *Grimwood's Royal George, Hooker's Pomona Londinensis, Tab.* 41.—*Enumerated in Hort. Soc. Fruit Cat.; Mr. G. Lindley, Hort. Trans.,* Vol. V., p. 543; *also under the names of Royal Kensington and Early Vineyard, by the same writer, Hort. Trans.,* Vol. V., p. 543 *and* 544. *Of the Nursery catalogues, it is the Large French Mignonne and Grimwood's New Royal George, a name given it by Grimwood, a nurseryman, in the early part of the reign of George the Third. This is the Large French Mignonne and Grimwood's New Royal George of Forsyth, and the French Mignonne, and Large Mignonne of Miller.*

To this list of names, the editors of the Pomological Magazine suppose it probable that those of the *Marlborough, Ronald's Early Gallande, Padly's Early Purple,* and the *Swiss Mignonne,* will be hereafter added; and they observe that, if these latter be really not the same with the *Grosse Mignonne,* (the name under which they have figured this sort,) they differ so little as not to be worth cultivating in the same garden as distinct varieties.

Mr. G. Lindley, in Hort. Trans. Vol. V. p. 543, *note,* observes,—"Although two peaches are cultivated as distinct in England by some nurserymen, under the names of *Grosse Mignonne* and *French Mignonne,* the French themselves have always considered them as one."

Forsyth appears to have considered Grimwood's *New Royal George* as being the same as the *Royal George,* a circumstance we do not recollect to have observed noticed by later authors.

The name, Royal Kensington, was given by Forsyth to this peach, which was sent from France, amongst some others, to the late Queen, prior to 1784, and he states that he found it entered in the Garden Catalogue as "a new peach from France."

Flowers, dark purplish, red, large.

Fruit, large, somewhat flattened, one side shorter than the other; flesh, pale yellow, full of juice, reddish towards the stone, from which

it separates freely. Colour, a high red towards the sun, and of a yellowish cast next the wall; skin downy; stone small and oval; flavour rich and vinous.

Tree, a great bearer when grown in a favourable situation, and, according to some cultivators, not delicate, nor liable to be blighted; this, however, we conclude depends chiefly on the soil and situation. We have almost invariably found it to be much less hardy than many others, and exceedingly liable to be attacked with mildew, particularly towards the points of the shoots, which, in some seasons, are but imperfectly ripened, particularly in young trees. The majority of cultivators agree in its being rather a delicate tree, and recommend it to be wrought on peach or apricot stocks.

Leaves, crenated or notched, glands globular. Ripens on southern walls in the latitude of London, in ordinary seasons, about the beginning of September. This is, upon the whole, one of the finest peaches in cultivation, and is alike valuable on the open wall and peach-house, as it is found to set its fruit well in a well-regulated heat. No peach-house should be planted without one tree, at least, of this kind being in it; and no good collection can be considered complete without it.

Our drawing was taken from fruit grown in the Royal Gardens at Kensington, where this tree has been long successfully cultivated on the open walls, and where it continues to merit the high encomiums bestowed upon it.

Mr. Alridge, the intelligent superintendent of the Fruit and Culinary department, considers it as one of the best peaches in that very excellent and extensive collection.

Our observations shall now be directed to the colours that may be useful for other flowers. In point of beauty, or delicacy of tints, perhaps rose-colour, or pink, may be classed among the first; and generally it will be best to lay the pink over first, before, as in some subjects, proceeding with the shade, which will often partake of other colours. Although carmine be the most beautiful colour we have for this purpose, yet, when the tint is very light, it will be better to use any other colour that may approach near to the shade wanted, as the change in carmine is greater when used light; if the tint of pink be wanted to be very bright, or of a more purple shade than the cake carmine will produce, it will be preferable to use it in powder, and mix it up with hartshorn, adding gum-water in some of the latter tints. We may often observe in nature, that flowers of this colour possess a considerable degree of shade, yet it would be an error of the pupil to put the whole of it in, as it would render the drawing too heavy for nature, but he should use more of the carmine, or of the colour that the flower may be composed of, occasionally adding a little of the neutral tint, or blue, for which very light azure blue will be often found of great use, particularly in roses. The pupil should be careful not to lay on the first tint too heavy, for, in the last-mentioned flower, the lights will sometimes appear almost white, and of course it will be impossible to wash them out afterwards, or to lay on white, and at the same time to retain a transparent appearance, which is the grand art of flower-painting. When the shade is of a darker tint than the last-mentioned colours will produce, a little lake will be found to answer the desired purpose; and if it should happen to be stronger than this, add a little neutral tint or Prussian blue to the lake, according to the colour of the shade.

For red or scarlet flowers, the pupil will find that it will not always succeed to mix the colours upon the palette first, but he should lay on the one, and then the other over, by which means the tint is much brighter; for instance, if the colour of the flower be of a very yellow scarlet, the pupil should first lay on the powder carmine, mixed up as before-mentioned, and then the yellow over, for which chrome, Indian yellow, or gamboge, will be found to answer the desired purpose. Or, if the reverse, he should lay on the yellow first, in which case, the best saffron, which may be procured at the chymists, dissolved in warm water until it is of some strength, will often be found to produce the brightest scarlet, when the carmine before-mentioned is laid over. The shades will mostly be produced in flowers of this colour by strong carmine, lake, and lastly, by mixture of lake and Prussian blue. It is greatly to be regretted that red-lead, which is a very beautiful colour, and perhaps the most brilliant scarlet we have, cannot be used in water-colours with-

out changing, unless it be passed over, when quite finished with varnish, which gives a gloss that is not always desirable, and in which most flowers of this colour are wholly deficient.

RHENANTHERA COCCINEA.

First, tint of green made with gamboge and Prussian blue, and shade the same with green made of Indian yellow and Prussian blue. Flowers, first lay on a light tint of Indian yellow mixed with a small quantity of carmine, and pass all over the petals with the same, the lower petals will require it to be a little redder; the stalks may be proceeded with in the same way, only using less red. These tints being laid on, mix up a tint of carmine, and put in the spots on the upper petals, beginning light, and gradually making it darker. The lower petals, dark carmine, shaded with a purple tint of Prussian blue and lake; the centre of the flower, carmine alone; first shade with lake, and in the last tints Prussian blue and lake, the yellow with light gamboge. This being done, go over the upper petals with a darker tint of Indian yellow and a little carmine, which will soften down the former tints; the shade on the stalk to be of the same tint; then shade the same with neutral tint, as well as some parts of the flower, and finish with the dark lines in the lower petals.

FRENCH MIGNONNE PEACH.

Mix a tint of Prussian blue and gamboge for the green of this subject, and shade with Prussian blue and Indian yellow, then lay on the veins with the same green. Stalks, first lay on carmine in parts, then the green the same as above; the brown will be formed by sepia, and pass round the teeth with lake. Fruit, mix up a warm grey of Prussian blue, gamboge, and lake, laid on in a soft manner, then pass all over with gamboge and Indian yellow, and shade with carmine; lake will be required in some parts; some of the dots with carmine, others with lake, and some purple, and finish up with the different colours used before.

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VIII.

BLACK HAMBURG GRAPE.

Enumerated in Hort. Soc. Fruit Cat.—Described in Pract. Gard. p. 495; *Ency. of Gard.; Speechly's Treat. on the Vine; Forsyth's Treat.* p. 172; *Nicol's Gard. Cal. 4th Edit.* p. 298.

This excellent grape has now a variety of synonyms, at least we are disposed to consider the following as such.

Warner's Black Hamburg, Gibraltar, Black Gibraltar, Hampton Court Hamburg,† Purple Hamburg, Brown Hamburg, Warner's Red Hamburg, Warner's Grape, and Frankendale of many of the Continental Gardens.*

At what period, or by whom this grape received the name of Hamburg, we have no certain information. The name would seem to imply that it either originated at, or was brought from, that city. An anonymous correspondent, in the *Gardener's Magazine,* says, "the true Black Hamburg, or Renraw, was brought over by Mr. Warner, at the same time with the other Hamburg grape, and that it was cultivated by Furber, at Kensington, in 1724; but what this other Hamburg grape was, he does not inform us.

The appellations of Warner's Black and Red Hamburgs are generally believed to have originated before 1730, with a gentleman of that name living at Rotherhithe, where he is said to have had a vineyard, and to have made wine. He rose from seed a vine, which has long been cultivated under those names, and which was considered as somewhat different from the old or true Hamburg, which must have been in our gardens, at least since the latter end of the seventeenth century. Subsequent investigations fully prove them to be identically the same; soil, situation,

* The Black Gibraltar of Scotland is the Esperione of England.

† This extraordinary vine, which hundreds have seen, and thousands have heard of, was planted as a cutting in 1769, from the celebrated Valentine-House Vine, in Essex, which latter was planted by Mr. Eden, in 1758, and had extended, in 1819, to upwards of 200 feet in length, and sometimes producing 2000 bunches of grapes. The Hampton Court vine is still in a vigorous state of growth, the main stem of which is above 13 inches in girth, and one of its principal branches extending nearly 120 feet in length; 2,200 bunches have been produced in one year, averaging one pound each. In the season of 1829, there was not so abundant a crop, but the fruit, both in bunches and berries, was as finely coloured, and of as large a size, as could be wished for.

and circumstances, sometimes effecting the colouring of the fruit,* which is the principal character on which the distinction is founded.

The Gibraltar and Red Hamburg, which we have here considered as the same, are asserted by Mr. Thompson, in his excellent paper on the Vines in the Welbeck Garden, in *Hort. Trans.* Vol. VII. p. 270, to be one and the same grape, but that they are different from the Black Hamburg. This difference, he states, consists in the bunches and berries of the former being not so large, the berries being quite globular, and almost indented at the end, with a tender delicate skin, and without the rich bloom of most other grapes; so that they have a purplish transparent appearance, showing the veins and fibres, like Stillward's sweet-water. In cold and damp soils, and particularly in wet seasons, when too many bunches have been left on the vines, we have remarked, that the grapes which, under different circumstances, were considered the true Black Hamburg, assuming very much the appearance of the Red Hamburg, as described above.

We therefore conclude, that imperfect ripening, proceeding from the above causes, is the true origin of the Red and Brown Hamburgs.

Bunches large, handsomely shouldered, berries large, black *when properly ripened,* roundish, oval shape, flesh pulpy, skin thickish.

Flavour, not exceedingly high, but agreeable. Seeds large.

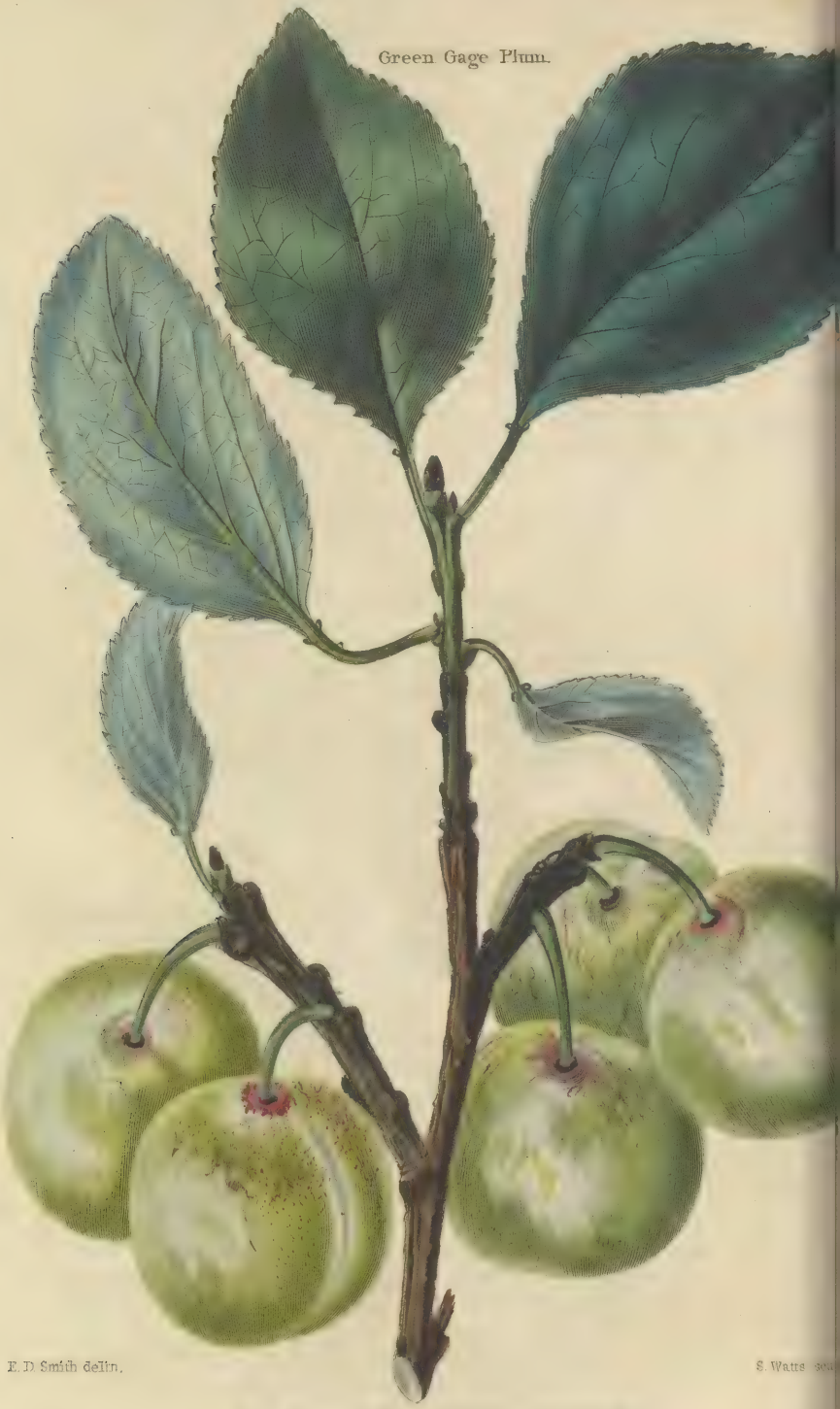
Foot-stalks of the leaves very long. Leaves large.

Whether we regard the Black Hamburg vine as an inmate of the hot-house or the vinery, it is equally entitled to our regard. It produces abundant crops under a greater variety of circumstances than any other vine, and, although it cannot boast of the musky perfumed flavour of the Frontignacs and Muscats, still it is a grape on which greater reliance can be placed for a crop than any other. In all collections it should have a place, and when the selection must necessarily be limited, this, for one, should by no means be omitted.

Our drawing was taken in the garden of W. Atkinson, Esq. of Groveend, from a vine which has produced berries of the enormous size of three inches in circumference.

* Nicol, one of our best practical authors, observes, (*Calendar, Edit.* 4th, p. 170,) "It is a fact well known to most gardeners of observation, that the colour, and also the quality of soils, have an effect on the colour and flavour of fruits, even on the colour of many flowers. The effects of the colour of soils on that of fruits, is most perceptible on the delicate kinds, such as grapes, peaches, &c.; but, to a nice observer, it extends in a greater or less degree, to all fruits. For instance, if two black Hamburg grapes, made from cuttings of the same plant, shall be planted, the one in a dry hazelly loam, the other in a moist black earth, the fruit of the one will be brown, or of a grizzly colour, and of the other, very dark red, or black: and the grape will be more juicy, though flatter in flavour, than the other growing in a drier soil."

Green Gage Plum.



E. D. Smith delin.

S. Watts sc.

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IX.

THE GREEN GAGE PLUM.

Enumerated in Hort. Soc. Fruit Cat.—Described in Pract. Gard. p. 486; *Nicol's Gard. Cal. 4th Ed.* p. 176; *Forsyth's Treat.* p. 17; *Encyclop. of Gard.—Noticed by Professor Bradley, in the 7th Ed. of New Improvements in Planting and Gardening,* p. 211; *and by almost every Author on Gardening since its introduction.*

Of this very excellent plum, there are supposed to be many varieties in cultivation, all of them, however, agreeing in such material points as to render any recapitulation of them unnecessary, particularly as they are all cultivated under the name of Green Gage, having, probably, for distinction, the names of places or persons prefixed to them, such as the Isleworth Green Gage, &c. The *Reine Claude Violette* plum, or purple gage, is supposed to be a seedling variety of it, and reported to be a better bearer, and to hang longer on the tree, and altogether to be one of the best plums we have. If such be the case, should not the *Old Blue Gage* be admitted a variety also?

This plum is sometimes cultivated under its French name, Reine Claude, or Queen Claud's plum.

This excellent plum was introduced to this country some time previously to 1739, by the noble family of Gage, who procured it, amongst other fruit-trees, for their garden at Hengrave Hall, from the monks of the Chartreuse, at Paris. It appears, however, not to be a native of France, as the name Reine Claude, one of the names by which it is there known, is supposed to have been applied in compliment to Queen Claude, the consort of Francis the First, and who is supposed to have introduced it to that country, but whence we have no certain accounts.

In France it is as much cultivated as it is with us, and, as a consequence which attend fruits in very general cultivation, it has obtained a variety of names. It is the *Abricot verd* in the vicinity of Tours; the *la Verte bonne* about Rouen, in Normandy; and the *Damas verd* of many other parts of France.

On its arrival in this country, the label upon which the name Reine Claude ought to have been written, was either defaced, or probably lost, during the journey; at all events, we learn, that of all the other trees received it was without a name. The tree was planted and prospered. On its producing fruit, the gardener at Hengrave Hall being at a loss for a name for it, bestowed on it the name of Gage, out of respect to the

family with whom he lived, and prefixed the name green as indicative of its colour.

FRUIT, middle-sized, above an inch in diameter, roundish, dark green when produced on young and healthy trees, (in which case, also, the fruit is larger,) assuming a yellowish hue when on sickly, or on very old trees; when highly ripened on a wall, or fully exposed to the sun, it becomes brownish russet colour, particularly on one side, with occasional slight dashes of pink-red next the sun. Ripens about the beginning of September, and lasts till the middle of October.

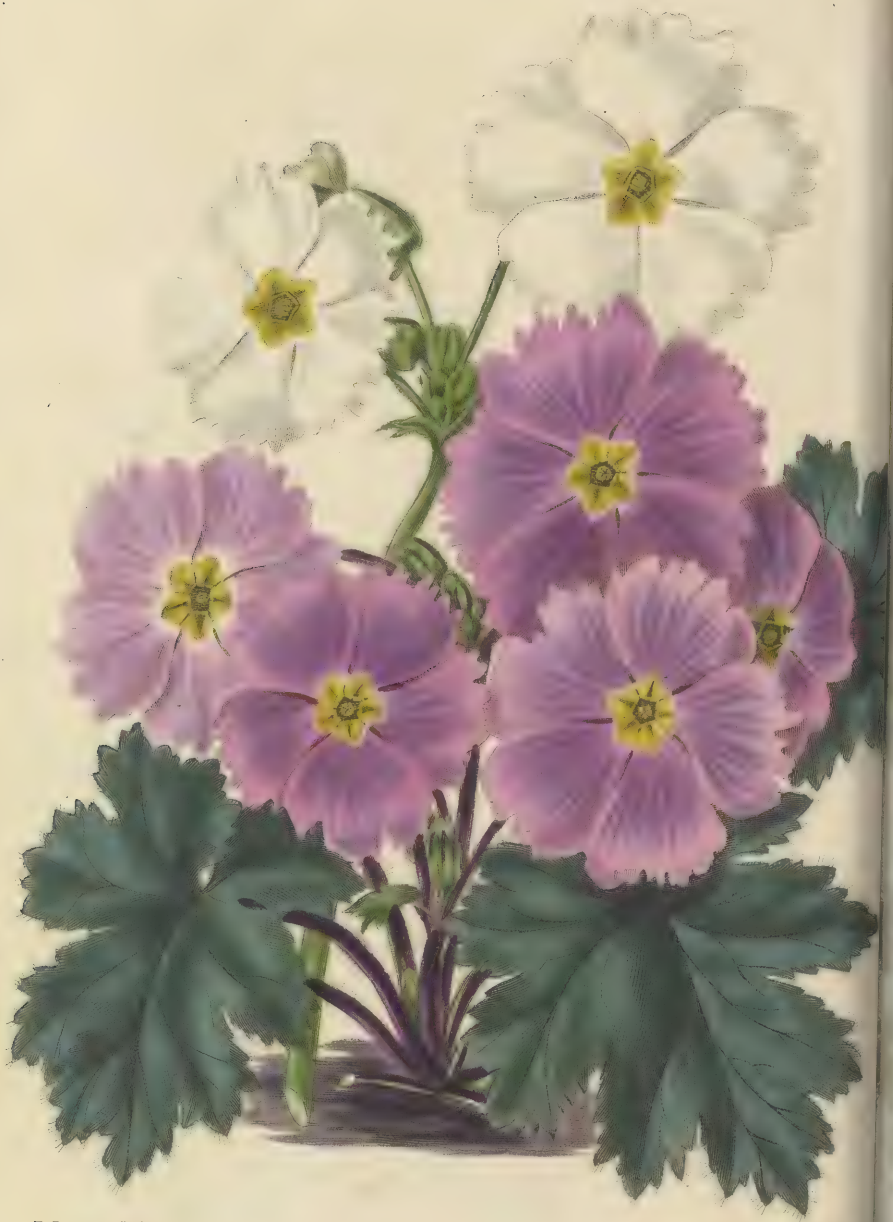
LEAVES, dark shining green on their upper surface, wood rather slender, natural spurs short and turgid. Flesh, yellowish green, rather adhering to the stone. Flavour exquisite.

It may be asked, what advantage can arise from figuring a fruit so generally well known as the present. Our answer is, that our object is not confined to bringing into notice new or doubtful fruits alone, but to endeavour to select those only of sufficient merit to be of general utility, and to form such a selection, that those who may be guided by our observations, may have no cause to complain of being induced to introduce a single fruit into their collection, which is either useless or indifferent.

In adhering to this proposition, we cannot pass a fruit which, of its kind, has long maintained the highest pre-eminence in point of flavour, productiveness, and general utility.

Whether we regard the green gage in the character of a table or culinary fruit, it is equally valuable, and the very general dissemination of it throughout the United Kingdom, is at once a testimony of the rank it holds in public estimation. There is scarcely a garden in Britain, which cannot boast of a tree of this sort; and the abundance of the supply, not only in our metropolitan, but also our provincial fruit-markets, is a striking proof of this assertion. Plums are not, in general, considered wholesome when eaten in a natural state. The green gage is, however, of this species, at once the most wholesome and the most agreeable.

Primula sinensis.



F. D. Smith delin. S. Watts

London: Published by Thomas Kelly, 17, Paternoster Row. 1830.

No. 8.

PRÍMULA SINÉNSIS (vars. *rubra et alba fimbriata*).

PURPLE AND WHITE FRINGED CHINESE PRIMROSES.

Class 5. PENTA'NDRIA.* — *Order* 1. MONOGY'NIA.

Natural Order.
PRIMUL'ACEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
China.	1820.		Green-house or Frame.	Rich light mould.
Time of Flowering.	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
Almost all the Year.	From 5 to 8 in.	Prænitens, Bot. Reg. 539.	Seeds.	Perennial.

GENERIC CHARACTER.—Capsul, one celled. Corolla, funnel-shaped, spreading open at the orifice or mouth. Stigma, globose.

SPECIFIC CHARACTER.—Leaves furnished with longish foot-stalks, ovate, cordate, (that is, between egg and heart-shaped), rugose (or coarsely wrinkled). Umbel proliferous,† calyx inflated (or blown out, as if full of air).

The GENERIC NAME, Prímula, is generally supposed to be derived from *primus*, the first to flower, because most of the species appear in bloom amongst the earliest plants in all countries where they abound. This definition has, however, been disputed by several botanists.

* PENTANDRIA, the name of the fifth class in the sexual system, and is derived from the Greek (*pente*, five, *aner*, a man,) and embraces flowers which are hermaphrodite, having five stamens or male organs. This is one of the most extensive of the Linnæan classes, and is supposed to contain about one-fifth of all phænogamous plants. One of its orders contains that vast natural order *Umbellifera*, many of which are luxuries or necessaries, and a few genera are marked as dangerous vegetable poisons. Few of them are cultivated for the beauty of their flowers, and, for the most part, they are herbaceous plants.

† PROLIFEROUS, from (*proles*, a shoot or offspring, and *fero*, to bear,) a prolific flower, or flower which, from its own substance, produces another: a singular degree of luxuriance, to which full flowers are chiefly incident.

Prolification, in simple flowers, arises from the seed-bud of the parent shooting up into another flower, and in that case a single foot-stalk only is protruded; in compound flowers, it arises from the common calyx, from all parts of which are sent forth many foot-stalks, each supporting a single flower.

Plants are also said to be proliferous, when they form young plants in abundance about their roots.

The Specific Name, Sinénsis, from China, its native country.

General Observations.—The whole of the genus *Prímula* are peculiarly interesting, the varieties of some of the species having been long popular, both with the florist and the gardener. The species from which the varieties originated, which we have chosen for our present subject, is but of recent introduction; it has, however, added quite a new feature to this genus of plants, and, with its more recently discovered varieties, is the only plant of the genus that requires even the protection of glass.

It was introduced into this country by Captain Richard Rawes, and presented by him to his relative, T. C. Palmer, Esq. of Bromley, in Kent. After its introduction, it continued for some time rare, as it is not readily increased, but by seeds. Shortly afterwards, seeds were brought from China, by Mr. Potts, for the Horticultural Society, from which plants were originated, and seeds abundantly procured, and soon after very widely dispersed.

The great beauty, long flowering, easy culture, and the facility by which it is reproduced by seeds, account for its being so widely disseminated, not only in the gardens of this country, but also for the vast numbers which appear in our metropolitan flower-markets.

The seeds should be sown as soon after they are ripe as convenient, in light rich mould, and placed on a cool airy shelf in the green-house, or in a cold pit. When the plants are sufficiently large, they should be potted off singly into thumb-pots, and kept till spring, protected from frost and damp. The sooner the plants are potted off, the better, as they do not succeed when kept too long in the seed-pots. As they increase in size, they should be shifted into larger pots, and kept in a growing state. The larger the plants are before they come into flower, the stronger and longer they will continue in that state.

In presenting our readers with a representation of the two varieties of this interesting species in one plate, instead of making two separate subjects, as is usual in such cases, is, we trust, an amendment which will meet that approbation, which may induce us occasionally to follow a similar economical arrangement.

The Chinese are said to be very successful in the culture of this plant, and if the drawings in the library of the Horticultural Society be faithful representations, which we have no reason to doubt, they exceed any that have yet appeared with us.

The drawing of our present subject was made in the garden of the Comte de Vandes, long eminent for its rich collection of plants, and which are highly creditable to Mr. Campbell, their intelligent and zealous cultivator; to whom, also, belongs the merit of having originated the white-fringed variety, represented in our plate.

We now proceed to purple or lilac flowers, the shades of which are so varied, and in some of such peculiar beauty, that it is impossible to approach any thing near them; for instance, the great variety of geraniums will be found to contain more flowers of this description than any other part of the domain of Flora. In most compound colours for flowers it will be found necessary to lay the tints on separately, in order to produce a colour sufficiently brilliant for nature. For the colours of which we are now speaking, powder carmine, as mentioned in page 9, will be found the most desirable, and if the purple be very bright, produced with ultramarine, azure blue, or smalt, according to the shade required; if the colour be very bright, and of a red purple, the carmine should be laid on first, and washed over with one of the above-mentioned blues, finishing it up with the two mixed together, and in some parts only one of them, to give the different shades; if of a more blue purple, then lay on that first, using ox-gall with the blue to cause it to look smooth, the bright blues being rather difficult colours to lay on, except the gall be mixed with them, which will have the effect of rendering them rather pleasant than otherwise. If the flower be not very bright, then the purple may be produced by mixing the carmine and blue together which will save much trouble. In laying on the first tints of the colour, the pupil should well observe the subject before him, that he may avoid making the colours too heavy, which should, in general, be lighter than they appear in nature, for in working up the flowers, he will be sure to encrease the strength of tint, and if the petal has a glossy appearance, the lights should not be so dark as the colour of the flower, which will assist in giving a brighter look to it than the colour really possesses; he should also shade it with a mixture of the above colours, except where one petal lies over another, or some other part of the plant causes a shadow; then he may use grey, but in no other instance should it be used, as we are quite deficient enough in bright purples to add any colours that may tend to lessen them. Too much delicacy cannot be observed in the laying on of these colours, nor can we too deeply impress upon the mind of the pupil the necessity of observing nature closely, if he wishes to arrive at any perfection in this department of the art. In the colouring of those flowers which are blue, the pupil will find no difficulty, as the colours before mentioned will be found sufficiently bright for any in nature, and in most instances shaded with Prussian blue, and some of the very dark with indigo. Sometimes a little grey will be found of benefit in the shadows, and often a pink shade when the colour is light. Great attention should be paid to all the different tints, for it is by the variation of colour, and taking advantage of every little circumstance, that we are enabled to represent nature even slightly. The

veins are another part that require the greatest care, and which is so much neglected, as they are often put in with perfect indifference to nature; for in no instance will they be found ungraceful, or not in accordance with the general appearance of the plant. In some flowers, we observe them of a beautifully thin line scarcely to be defined, in others of a bolder cast, and always in harmony with the whole appearance of the plant, defying a fault to be found; therefore having so wonderful an original to copy from, the pupil ought to follow it in every minutia.

BLACK HAMBURG GRAPE.

First, wash a light tint of green all over the leaf, except the veins, which should be left white, the green should be made of Prussian blue and gamboge mixed together, then finish up the leaf with the same green a little darker, after which go over the veins, the light ones with gamboge, the others dark green, and put in the teeth with yellow green. The first tint of the shoot or branch should be burnt sienna, shaded with sepia. For the grapes, lay on a tint of light indigo and a very little lake, then a light shade of azure blue in some parts, those parts of the grapes that have a red appearance will require more lake, and finish up with the same colours, adding sometimes a little indigo; for those parts of the grape, which have a warm look, add a little yellow. The brown touches upon the fruit will be produced by sepia and white, particular attention should be paid to the outline that it is kept light, to give roundness.

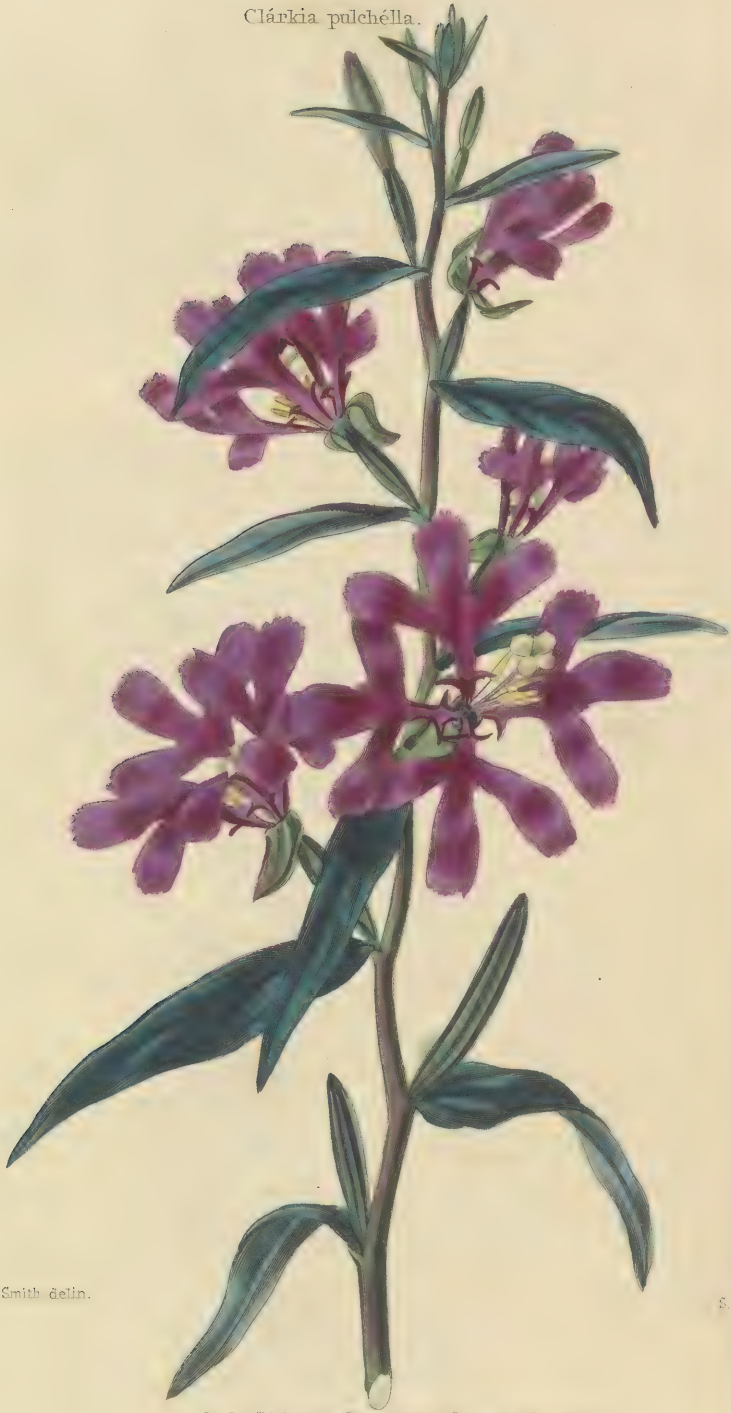
GREEN GAGE PLUM.

For the green of the leaves in this subject, use Prussian blue, gamboge, and a little indigo, to prevent its being too bright; for that part of the stalk which is brown, use sepia with yellow, and sepia alone for the darker parts. For the fruit, first lay on the bloom with a light tint of azure blue, the green colours, Indian yellow with a little green, and finish with the same, more or less yellow, passing over parts of the bloom. The red with carmine and lake, and some touches with sepia.

PRIMULA SINENSIS.

The green of the leaves, a light tint of gamboge, Indian yellow, and Prussian blue; shade with Indian yellow and Prussian blue. The germ of the white flower gamboge and Prussian blue, and shade with the same. The stalks, a little green mixed with lake, and shade with a darker tint of the same. Purple flowers, first a light tint of powder carmine, mixed up as before mentioned, all over except the yellow in the centre, which should be left light. This being dry, wash a light tint of azure blue over, and shade with a mixture of azure blue, with carmine. Those flowers which are in shade should have a little grey laid on with care. For the yellow in the flower, a tint of gamboge, finished with Indian yellow. For the white flowers, a light tint of grey made by the three colours before mentioned, with a light tint of gamboge all over the flower; afterwards finish up the grey of a warm tint; those of the leaves that have a shadow from the flowers upon them will require a tint of dark grey.

Clárkia pulchélla.



F. D. Smith delin.

S. Watt

London. Published by Thomas Kelly, 17 Paternoster Row 1830.

No. 9.

CLÁRKIA PULCHÉLLA.

PRETTY CLA'RKIA.

Class 8. OCTÁNDRIA.

Order 1. MONOGY'NIA.

Natural Order.

ONAGRÀRIÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
North America.	1827.	Bot. Reg. 1100.	Flower Garden.	Garden Mould.
Time of Flowering.	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
July to Nov.	From 1 to 1½ ft.		Seeds.	Annual.

GENERIC CHARACTER.—Calyx superus, divided into four, laciniated and reflexed. Petals,* four, attached to the receptacle by a longish unguis or claw. Stigma,† three or four lobed. Capsuls sulcated or furrowed.

* PETALS, petalum, a word of Greek derivation, expressive of a leaf. Petalum and folium are synonymous, according to their etymology. The former is now universally used to express the coloured leaves of the corolla or flower, and the latter the leaves of the plant only. The petals are, however, often, in the language of philosophers and poets, called the leaves of the flower. The author of the Seasons calls the petals of the sun-flower "Yellow leaves;" and that amiable philosopher, Rittenhouse, says, "And all yonder stars innumerable, with their dependencies, may, perhaps, compose but the leaf of a flower in the Creator's garden."

In Botanical language, the petal constitutes the principal part of the corolla, and surrounds the parts of fructification. A petal consists of one or more pieces for which botanists have devised expressive names. Some flowers are supposed to be without petals, and are therefore called apetalous; but the existence of such flowers has been denied by Knaut, in his *Methodus Plantarum genuina*, and if the doctrines of Jussieu, and some others, concerning the calyx and corolla be orthodox, it would then appear that many plants, and some of them the most beautiful that we know, are strictly apetalous.

† STIGMA, (properly a mark or brand,) is used by botanists in denominating the summit of the style. According to sexualists, it is the female organ of generation in

SPECIFIC CHARACTER.—Stem round, branching towards the top, pubescent. Leaves linear-lanceolate.

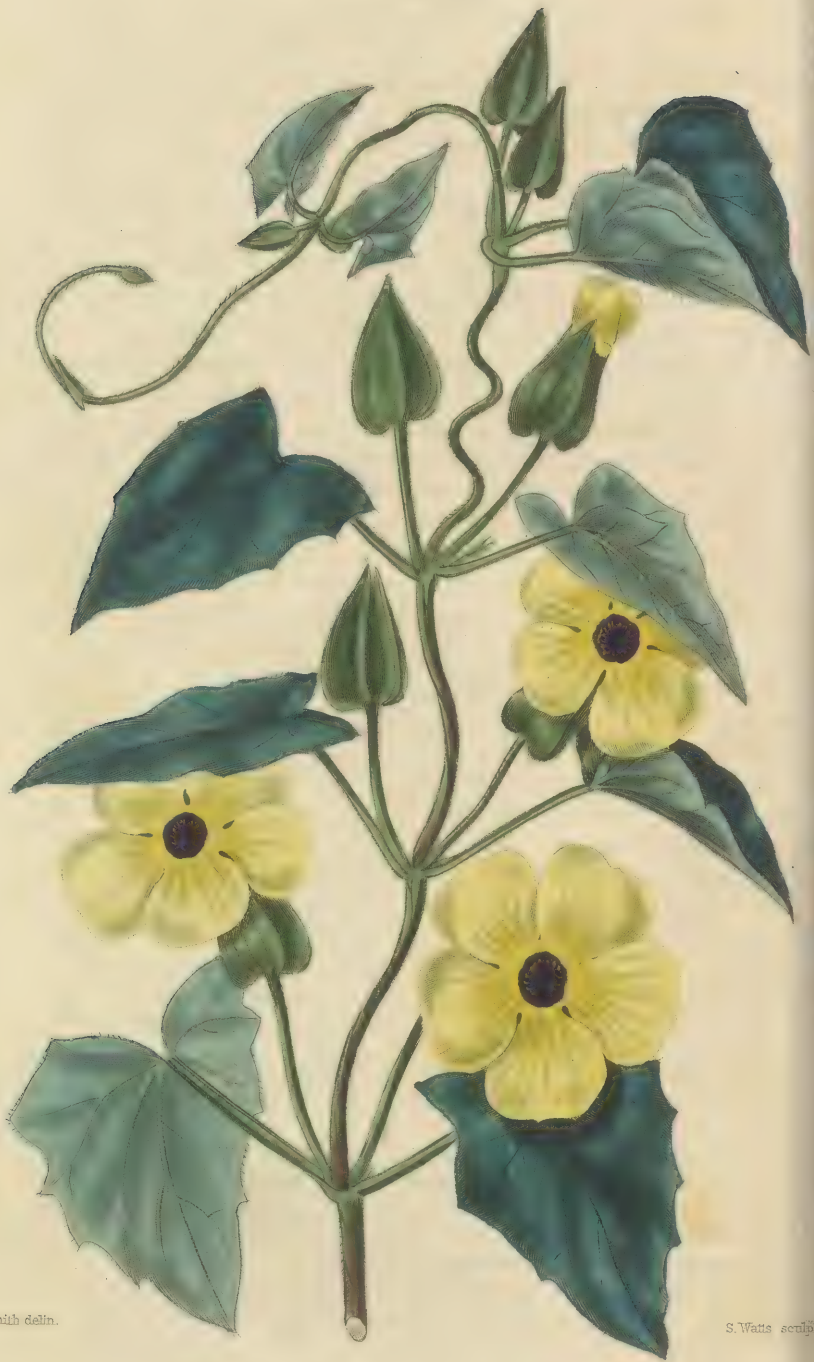
The GENERIC NAME, CLA'RKIA, was given in honour of Captain Clark, the companion of Capt. Lewis, in his journey up the Missouri.

The SPECIFIC NAME, PULCHE'LLA, from pulcher, pretty, neat, elegant.

GENERAL OBSERVATIONS.—This beautiful annual is nearly allied to *Œnothera* and *Epilobium*, but is distinguished from both by its three lobed petals, four abortive stamens, and petaloid stigma. It was found by Mr. David Douglas abundantly in the districts about the river Columbia, and seeds of it were sent by that enterprising traveller to the Horticultural Society, and by them distributed to the collections of this country. As a flower-garden annual, this plant has few superiors, and is well calculated either for being grown in beds or masses, or as single plants in the front of borders or parterres. It may be prolonged, if protected in a frame, in a tolerable state of flower during a great part of winter, and if sown in autumn and kept in pots, and prevented from flowering till spring, will, if planted out in the borders in April, flower early in summer, and perfect its seeds with greater certainty, and in greater abundance, than if sown in spring, and allowed to flower the same season. The usual culture, however, is that of sowing it either where it is to remain to flower, or to sow it in pots in a slight heat, and when the plants are sufficiently strong, planted out like other annuals. In this latter state it is strictly annual, that is, existing only till it has produced its flowers, and most probably its seeds; in the former it shows the immediate effect which climate and cultivation have upon the term of duration of the roots of vegetables. Thus we see, that many perennial plants, transplanted into colder climates than that which nature has allotted them, become annual, and are propagated by seeds. While instances occur of plants being natives of colder climates becoming to a certain extent perennial, when transplanted into such as are warmer. The effects of cultivation, in influencing the term of existence of the roots of vegetables, seem too little attended to, and consequently are little understood. The effects of climate are pointed out to us by nature, and cannot scarcely pass unnoticed by the most superficial observer.

plants, which receives the fecundating dust of the tops of the stamina, and transmits it through the style to the heart of the seed-bud, for the purpose of impregnating the seeds.

The surface of the stigma is, in general, covered with a mucilaginous substance, which is supposed to dissolve the particles of the fertilizing dust, and thereby enable it to penetrate to the seeds below. Indeed, the experiments of Vaillant, Jussieu, and Needham, have left no room for doubt on the matter.



E. D. Smith delin. S. Watts sculp.

London: Published by Thomas Kelly, 17 Paternoster Row 1830.

No. 10.

THUNBÉRGIA ALÁTA.

WINGED-STALKED THUNBÉRGIA.

Class 14. DIDYNA'MIA.

Order 2. ANGIOSPE'RMIA.

Natural Order.

ACANTHÀCEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Zanguebar.	1825.	Bot. Mag. 2591.	Stove.	Peat & Loam.
Time of Flowering	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
Most of the Year.	Climber.		Seeds and Cuttings.	Perennial.

GENERIC CHARACTER.—Calyx double; the external one two-leaved; the internal one twelve-toothed. Corolla, bell-shaped. Capsul or seed-vessel, beaked, two-celled.

SPECIFIC CHARACTER.—Stem square, hairy. Leaves opposite, nearly triangular, cordate sinuate-dentate, five-nerved. Petioles, the length of the leaves. Peduncles axillary, one flowered. Corolla, consisting of one petal, spreading towards the apex, and terminating towards the bottom in the form of a tube somewhat curved: limb, or spreading part of the corolla, divided into five nearly equal, rounded, cream-coloured Laciniæ.* Faux,† black purple.

The GENERIC NAME, THUNBE'RGIA, was given in honour of Charles Peter Thunberg, M.D. Professor of Botany in the University of Upsal, Author of the *Flora Japonica,* and *Travels into Europe, Asia, and Africa.*

* LACINIÆ (properly, *fringes, lappets, pieces,* or *jags.*) In Botanical language, the several sections of the calyx, petals, and pistellum. The term is likewise applied to leaves.

† FAUX, the lower hollow part of a monopetalous flower, as, in the present subject, is called the tube; the upper spreading part, the limb, the opening of the tube, the chaps, jaws, or faux.

The Specific Name, Ala'ta, from Alatus, winged, the foot-stalks of the leaves being furnished with membranaceous wing-like appendages.

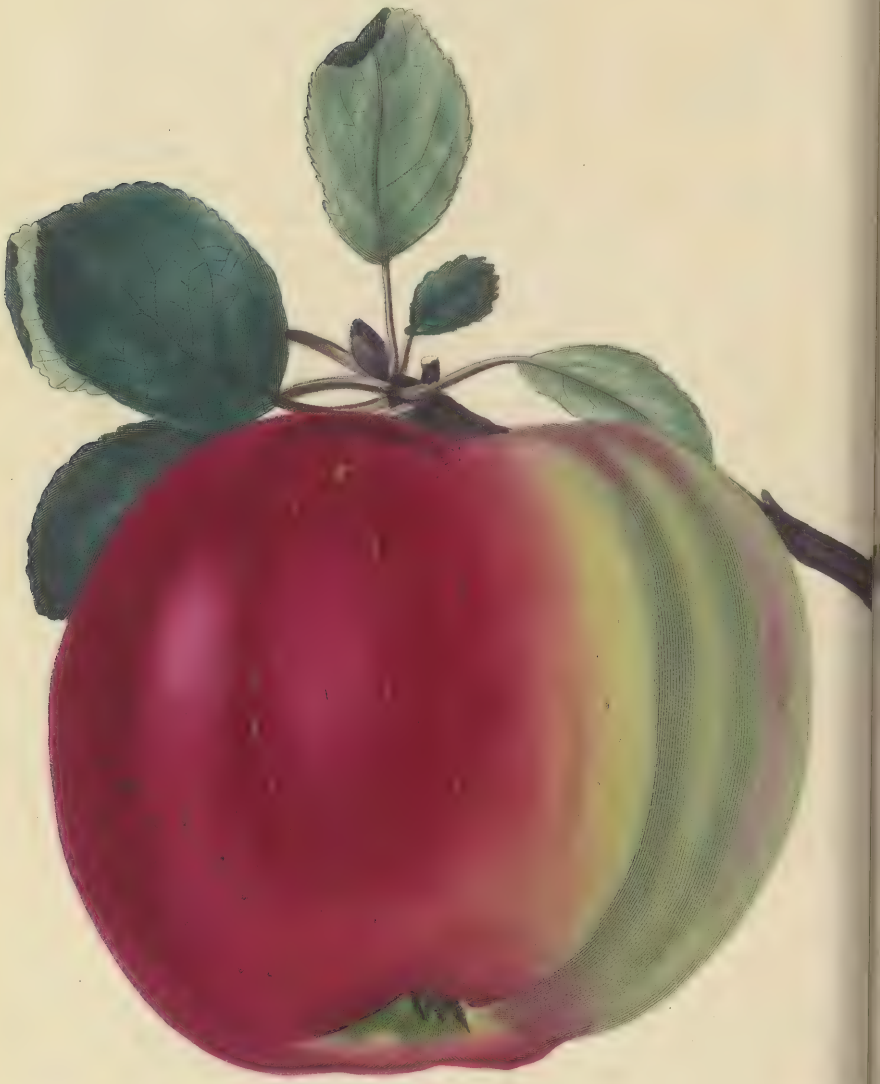
General Observations.—Seeds of this very interesting species were received by R. Barclay, Esq. from the Mauritius, through Mr. Telfair, by whose exertions the collections of this country have been much enriched, and who describes it as a native of Zanguebar and Pomba, on the eastern coast of Africa.

All the species of this genus, with which we are hitherto acquainted, are natives of warm climates, and, with the exception of T. Capensis, require to be cultivated by us in the stove; they are all of climbing habits, very beautiful, and some of them fragrant; they are all of the easiest culture, rooting freely from cuttings in light rich mould, and occasionally producing seeds, which, if sown in spring in a hot-bed, will vegetate freely. They come into flower when quite young, as has been particularly the case with our present subject, and continue producing numerous flowers in succession for many months. Plants, originated from cuttings in March, will be, if properly attended to, in excellent condition to place in the green-house during the summer months, where, if the house be kept moderately warm, they will continue in flower till autumn.

The whole of the genus, and this species in particular, should be kept rather dry during winter, for, if kept too moist, they are liable to die. From the facility with which they are produced, one or two strong plants, well wintered, will supply cuttings enough in spring to stock any collection. Plants of this species, impregnated with others of the same genus, have ripened seeds in the Claremont-gardens, from which plants have been raised, but how far the progeny may be altered or improved, remains yet to be ascertained.

Our drawing was taken from a plant in the splendid collection of Mr. Colvile, King's Road.

Kirke's scarlet admirable Apple.



F. D. Smith delin. S. Ward sc.

London: Published by Thomas Peil, 37, Farringdon Road, 1880.

X.

KIRKE'S SCARLET ADMIRABLE APPLE.

Described in Forsyth's Treatise, 4th Edit. p. 96; *Ency. of Gard.* p. 694.

This is an apple of British origin, and was brought into notice towards the latter end of the last century by Mr. Joseph Kirke, nurseryman, Brompton, whose name it bears. As a culinary apple it holds a high rank, boiling freely, and affording a large portion of pulpy matter, in proportion to its size. It is a good bearer, and produces fruit when very young, particularly if wrought on Paradise stocks.

TREE, hardy, handsome.

FRUIT, above the middle-sized, beautiful scarlet-coloured when fully exposed to the sun, yellowish in the shade, comes into use in January, but will keep much longer, foot-stalks short, shape ovate, eye small, flesh firm and sharp.

LEAVES, oval and pointed, notched round the margin, foot-stalks shortish, *stipuls** broad, and dark green.

WOOD.—In healthy trees, such as in Mr. Kirke's nursery, strong, but not robust. Cortex,† or bark, smooth, with slight traces of a

* STIPULA is one of the *fulcra*, or supports of plants, which the great Swedish naturalist has defined to be a scale or small leaf, stationed on each side of the base of the foot-stalks of the flower, and leaves at their first appearance for the purpose of support. Some botanists, however, restrict it to the foot-stalks of the leaves only. It is not unfrequently called in as a mark of distinction in discriminating the species of plants, varieties of fruits, &c., and appears, first, to have been used by Malpighi, and afterwards by Linnæus; the latter has described seven kinds of fulcra or supports, viz. *Petiole, Stipule, Bract, Peduncle, Pubescence, Tindril,* and *arms.*

† CORTEX.—The rind or outer bark, from *corium, leather* or *hide,* and *tego, to cover.* One of the six organized substances enumerated by writers on vegetable physiology, as constituting the trunks of trees, viz. *Epidermis* or *Cuticul, Cortex, Liber, Alburnum, Lignum,* and *Medulla.* Of these, the three first compose the bark, in the general acceptation of the word. The *Cortex,* or outer bark, is plated, lax, dry, and hard, and often in chinks or cracks. It seldom adheres very firmly to the *Liber,* but the degrees of its adhesion are various. The cortical plates, coats, or layers, says Dr. Barton, appear to be formed of a net of longitudinal fibres, which wind, more or less, round the axis of the vegetable, and compose meshes of a larger or smaller size. This fibrous structure is very readily perceived when the bark is macerated in water, for, by that process, we destroy the cellular substance which separates the fibres. Each of these more conspicuous fibres is composed of several others, which are much more minute, and which cannot readily be discovered without

silvery grey bloom or *cuticle,*‡ which is, however, most apparent on the young wood.

The drawing of our subject was taken from a tree in the collection of Mr. Kirke, at Brompton.

the assistance of good glasses. These fasciculi, or bundles of fibres, are not isolated, or entirely detached, from each other. They are often connected to each other by certain portions of the vegetable, which throw themselves off from them, and incline towards other bundles, accompany them in their inflections, and combine to form other bundles. In this manner a large net-work is formed, which is filled up with parenchymatous matter. This net-work is, however, various in different vegetables; the study of which, by dissection, will afford a vast fund of instruction to the Physiological student.

‡ CUTICLE SCARFSKIN, or EPIDERMIS, is defined to be a very fine membranaceous substance spreading over the bark, and is always transparent and elastic, without colour or any sensible organization, some very small pores excepted, which are sometimes discovered in its substance, and probably serve the double purpose of throwing off superfluous moisture, or imbibing dew.

THE next part which comes under our consideration are the light and shade of the object that the pupil may have before him, for it is by a judicious management of the chiaro-scuro that objects receive their force, and by which the proper effect is given to the subject, and a confused appearance prevented. It ought to be considered as second in importance to the outline, for no drawing can look pleasing unless great attention be also paid to the light and shade, and, in order to enable the pupil to put the shades in properly, some regard should be paid to the placing of the subject that he may have the light apppear to advantage. The subject that the student may purpose to copy should be put rather on the right side, in preference to the left, and the light to fall upon it from the left hand, with the lower part of the window closed up. In support of this principle, we need only refer to the pictures of the most eminent artists, in which it will be found thus treated, and it certainly has a more pleasing appearance than when the reverse is acted upon. The pupil ought to keep the light in as broad a mass as the subject will admit, for nothing gives a drawing so bad a look as small lights and shades; to effect which, if it be a group or composition, that he is engaged upon, the light should be as much connected as possible, and that rather on one side, as it would have a bad appearance to throw it in the middle of the subject, and to promote which he should endeavour, as much as possible, to place those flowers which are of a dark colour on that side of the group which is to appear in shade, as it would be impossible to give sufficient light upon a dark purple flower, or any other colour that is powerful in itself, and at the same time retain a good effect, and imitate the colour of the flower. For the same reason, those flowers which are light in themselves, should not be placed in the dark part of the group, for then the beautiful delicacy of the flower must be sacrificed to give the proper light and shade. While speaking of a group, it may not be considered extraneous to give some instructions about the arrangement of the flowers. It would have a bad and heavy appearance to put those flowers which are large, such as rose or pæony, in the upper part, but they should be placed in the middle or towards the bottom of the composition, and those of a light and delicate look at the top and outer parts of it. Also to obtain a good selection of flowers, we should make choice of those which will harmonize one with the other, as we cannot, or ought not, in flower-planting, to vary the colour of a flower from nature, to give harmony, so in grouping a number together, we ought to make choice of those flowers which will give a pleasing variation, and at the same time assist in the light and shade. Stiffness in the arrangement of the flowers should be avoided, not placing them in straight lines,

or those flowers of the same shade of colour in equal divisions of the group, but they should be scattered about in a careless manner, keeping the outer parts of the composition light.

CLARKIA PULCHELLA.

The first tint of green will be produced by a mixture of gamboge and Prussian blue, making it more or less yellow, as the different parts of the plant may require. Shade with a green of Indian yellow and Prussian blue, and where it has a red or brown appearance, lay on a little lake. The first tint for the flowers should be powder carmine with hartshorn, and when dry, lay over a tint of azure blue with a little gum-water in the colour to give brilliancy, and finish up the flower with the same colours, occasionally mixing them together. For the stamens and stigma, a little gamboge, shaded with grey.

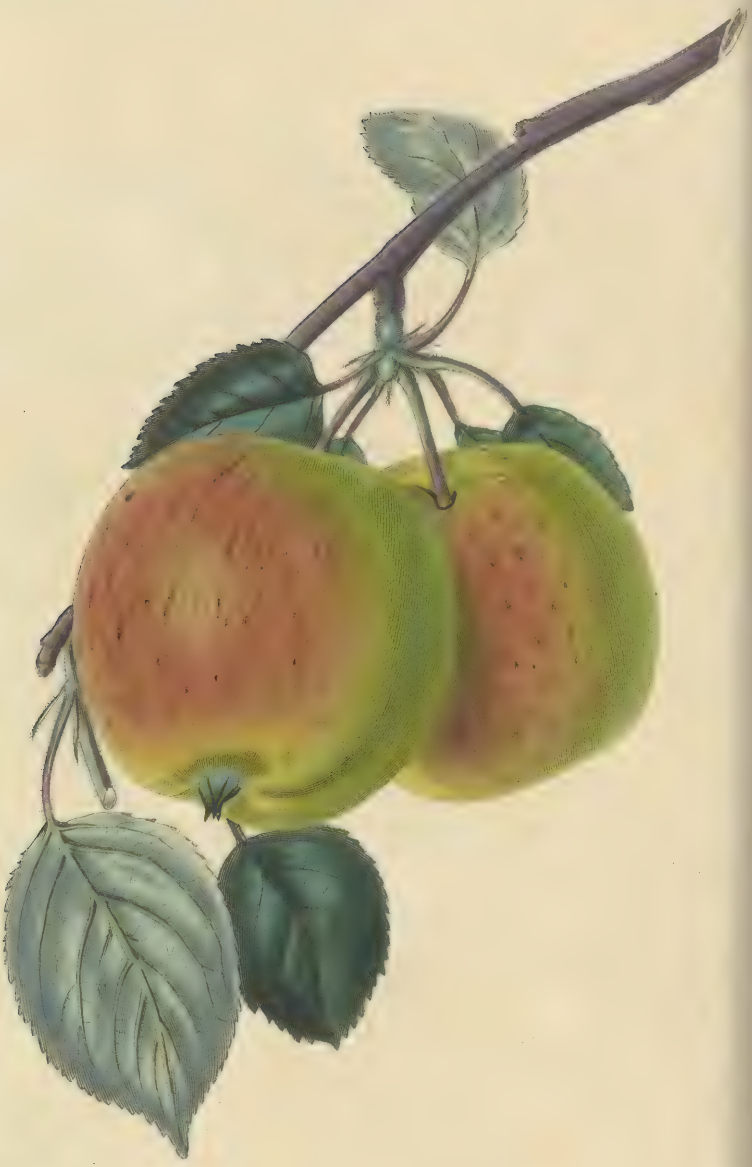
THUNBERGIA ALATA.

First, lay over a light tint of gamboge and Prussian blue mixed together, then upon some of the leaves which are dark, lay on a tint of Indian yellow and Prussian blue, after which shade with a darker tint of the above greens, as occasion may require, and when the tints are quite dry, put on the veins. Some parts of the stalk will require a little lake to give a purple tinge. For the flowers, first mix up a tint of grey, and pass over some of the shades, when dry, lay on a tint of chrome all over the flower, except the purple in the centre, which is made of Prussian blue and lake, and finish up the flower with darker chrome, gamboge, and in parts where the shade is darker, a little more grey.

KIRKE'S SCARLET ADMIRABLE APPLE.

For the greens, mix up a tint of Indian yellow and Prussian blue, and shade with a darker mixture of the same colours. For the stalk or branch, a tint of lake, with sepia, and shade with sepia alone. For the fruit, first lay on a shade of greenish grey, finished off in as soft a manner as possible, when dry, lay on a tint of gamboge, and a little Indian yellow, this being done, lay on the part which is red, a tint of carmine, and afterwards, in some parts, a tint of lake, avoiding as much as possible, a rough appearance. For the light spots upon the fruit, sepia mixed with white, the dark ones a little Prussian blue with lake.

The Kerry Pippin.



E.D. Smith del.t

S. Watts

Published by Thomas Kelly, 17, Paternoster Row, 1830.

XII.

KERRY PIPPIN* APPLE.

Described in the Memoirs of the Caledonian Horticultural Society; Hooker's Pomona Londinensis; Practical Gardener, p. 460.

This excellent apple is of Irish origin, and is much cultivated in that part of Ireland from which it takes its name; but at what period, or under what circumstances it originated, we have no positive account. It is only of late years that it has been cultivated in the gardens in the vicinity of London, and it may be said to be still less known than its merits deserve, particularly as a culinary fruit.

FRUIT, middle-sized, roundish, colour greenish yellow, ripens in October, and keeps till February or longer.

TREE, spreading, very great bearer, hardy, and not liable to canker nor disease, well calculated for standards, and one of the most profitable apples for an orchard or small garden.

Our drawing was made from a fruit growing in the fine collection of Mr. Joseph Kirke, nurseryman, Brompton.

* Pippins are supposed by some to have been so called because the trees were raised from the *pips*, or seeds, and bore the apples which gave them celebrity without grafting; while others think that they take their name from the small spots or *pips* that usually appear on the skin of these apples. Pippins are said to have been introduced into England in the reign of Henry the Eighth, by *Leonard Maschal*, who planted them at Plumstead, in Sussex, a small village on the north side of the south downs. He also introduced the first carp into England, and is thus said to have at once furnished our orchards and ponds with the greatest rarity of their produce. That many excellent varieties of pippins, however, are indigenous to this country is beyond all doubt; for example, the Ribston Pippin is well known to have originated at Ribston Hall, in Yorkshire; and the famous Golden Pippin, supposed by Knight and others to be now much degenerated, is a native of Sussex, and said to have been first raised at *Parham Park*. They were, however, considered rare in Shakspeare's time, as we learn from allusions he makes to them in more than one of his plays. Gerard, who wrote about seventy years after the date above given of their introduction, gives no description of this variety, when describing the apples of his day. Pippins appear to have been rare even in the time of Charles the First, as only one pippin tree is mentioned in the valuation of the Queen's garden at Wimbledon.

XI.

MANKS' CODLING APPLE,

OR

ISLE OF MAN CODLING.

Described in the Transactions of the Horticultural Society, vol. iii, p. 320.

This excellent culinary apple originated in 1811, from seeds sown by Mr. James Kewley, (well known as the inventor of several ingenious pieces of mechanism applicable to horticultural purposes,) in the garden of his father, Mr. Kewley, of Ballanard, about a mile and a half from Douglas, Isle of Man. It produced two fruit for the first time in 1815, and has continued yearly to produce abundant crops, with the exception of the season of 1818, when it failed, it is supposed from having borne too heavy a crop the preceding year.

The original tree still exists; it has never been transplanted, and shows no appearance of canker nor disease.* Mr. Kewley presented

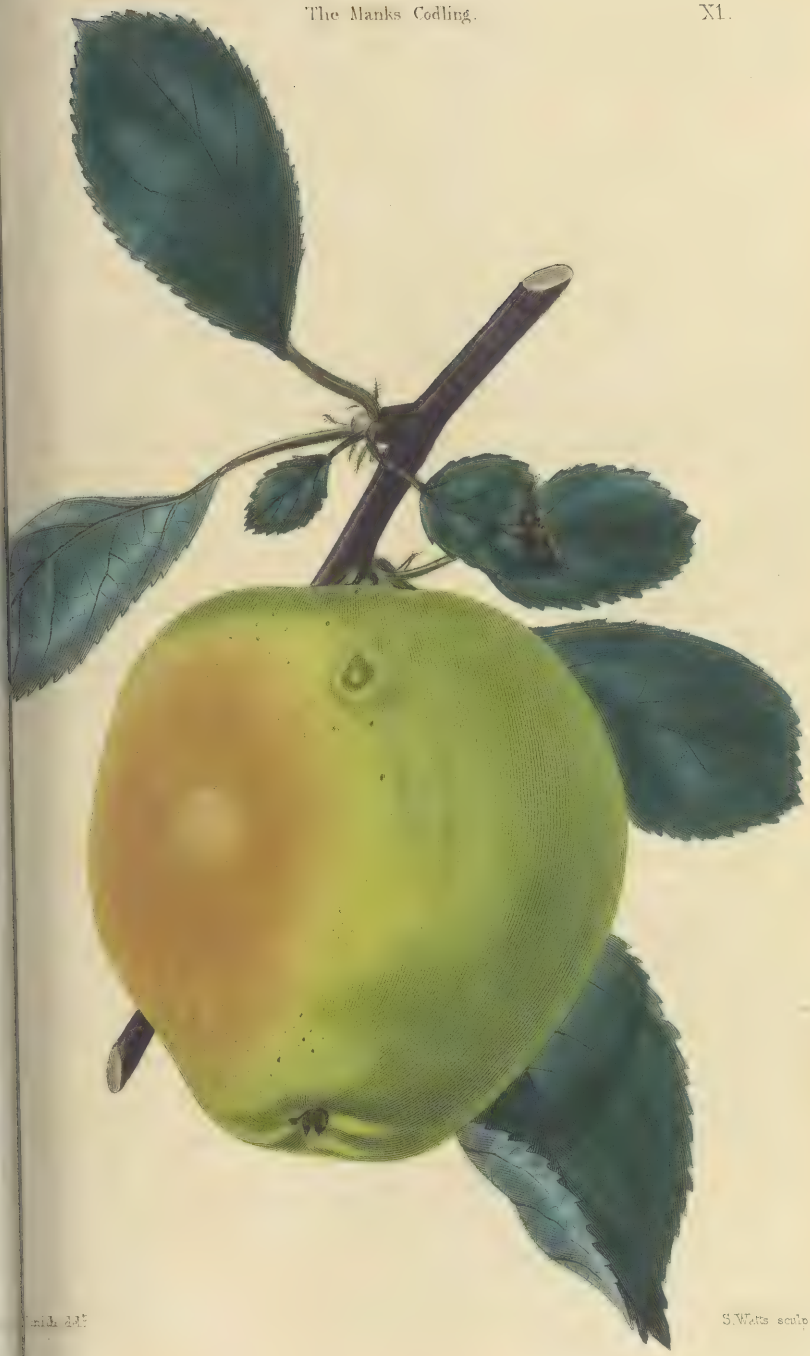
* The diseases of vegetables may be said to be arranged under three heads, viz. Diseases which appear to originate from internal causes,—Diseases which originate from the action of the external elements,—and the Diseases which arise from the nidifications or depredations of insects. To the latter of these, we may, at this season of the year, (April and May,) particularly direct our observations, as their injurious effects are now the most obvious.

Numerous, and we may add ill-defined, are the insect enemies which the cultivator has to combat. Some of these are no doubt indigenous to our climate, while others are unquestionably introduced. To the first of these may be referred several, and indeed numerous species of the genus *Aphis*, which will be hereafter noticed. To the latter, may be referred, that destructive insect *Aphis laniger*, or American blight, which, according to the late Sir Joseph Banks, was introduced about 1796 or 7, from South America, which is fast gaining ground in our orchards and fruit gardens, and which seems to baffle the efforts which have been hitherto used to suppress or to subdue it. As this is the season when its effects are most obvious, it follows that some anxiety may exist in regard to the means used for its suppression. The following receipts, the merits of which rest on the credit of their respective authors, are now given.

1st. Soap-suds and urine, in equal quantities, rubbed on the infested parts with a painter's brush.—*Forsyth.*

2d. Soft soap, sulphur, and tobacco-juice, a pound of each, in about a Scotch quart of soft water, applied to the stems and branches with a brush.

When they attack the roots, the earth is removed, and the following mixture is



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London, Published by Thomas Kelly, 17 Paternoster Row 1830.

six or seven scions of it in 1816 to Messrs. Clark and Gray, nurserymen, at Keswick, Cumberland, who propagated it very extensively, and

poured about the roots: about forty Scotch pints of soap-suds, collected from the washing-house, the juice of four pounds of roll tobacco, and four pounds of flour of sulphur.—*Hay, in Caledonian Horticultural Memoirs.*

3d. Train or fresh oil, applied to every part affected, has been recommended by *Sir Geo. S. Mackenzie, Bart.*

4th. Chamber-ley, kept for several weeks, applied to the trees in the afternoon with a garden engine, has been recommended by *Mr. Barnet.*

5th. To four gallons of water, add one pound of soft soap, two pounds of common sulphur, half an ounce of black pepper, and one gill of train oil; let these be mixed, and boiled for twenty minutes over a slow fire. When about milk-warm, to be applied to the trees by means of a soft brush, in Autumn.—*Mr. Harrison.*

6th. Spirits of tar, applied to the bark of the tree, have been proposed by the late *Sir Joseph Banks.*

7th. Abercrombie's receipt is the same as Forsyth's, with the addition of rubbing the nests or places where the insects are stationed, before applying the liquor, with an old brush.

8th. Solutions of lime and water have often been tried, but without any great success.

9th. Mr. Kirke, of Old Brompton, keeps his immense stock of fruit-trees perfectly clean of these insects, by the more tedious, but more certain, method, of rubbing the parts where the insect begins to make its appearance, with a brush or piece of woollen cloth; this, if taken in time, and persevered in, will do more than all the solutions and preparations already published.

10th. Oil of turpentine, as well as a solution of arsenic, has been applied, but the consequence was, that both insects and branches were killed.

11th. Two quarts of vegetable tar, half an ounce of corrosive sublimate, half an ounce of spirit of salt, and one gill of spirit of hartshorn have been used with good effect by Mr. Dann, in the gardens of Earl Cornwallis. The sublimate must be pounded in a mortar, adding the spirit of salt by degrees to dissolve the mercury; next add the hartshorn, rubbing all together until completely mixed. The mixture should then be put into a glazed earthen pipkin, to which the tar should be added by degrees, stirring the mixture constantly to prevent its running over. This mixture is applied with an old painter's brush to the parts of the trees affected. Previously to using the medicament the bark is scraped with a blunt instrument, and all mosses, loose or rotten bark removed. The edges of the cankered parts, and other excrescences are pared smooth, and the holes are scooped out with a gouge or chisel, until a smooth clean surface be found at the bottom of each cankered part.

Mineral poisons we would object to in the application to fruit trees, and would recommend for the destruction of all insects either some mechanical process like Mr. Kirke's, or the infusion of some of the various narcotic plants that are not liable to be themselves attacked by the Aphis, such as *Digitalis, Juglans, Hyoscyamus, Nicotiana, Prunus-lauro-cerasus,* &c. These infusions might be made in hot-water, or perhaps for a longer time in cold, and the liquor applied by a syringe, engine, brush, or sponge, according to circumstances.

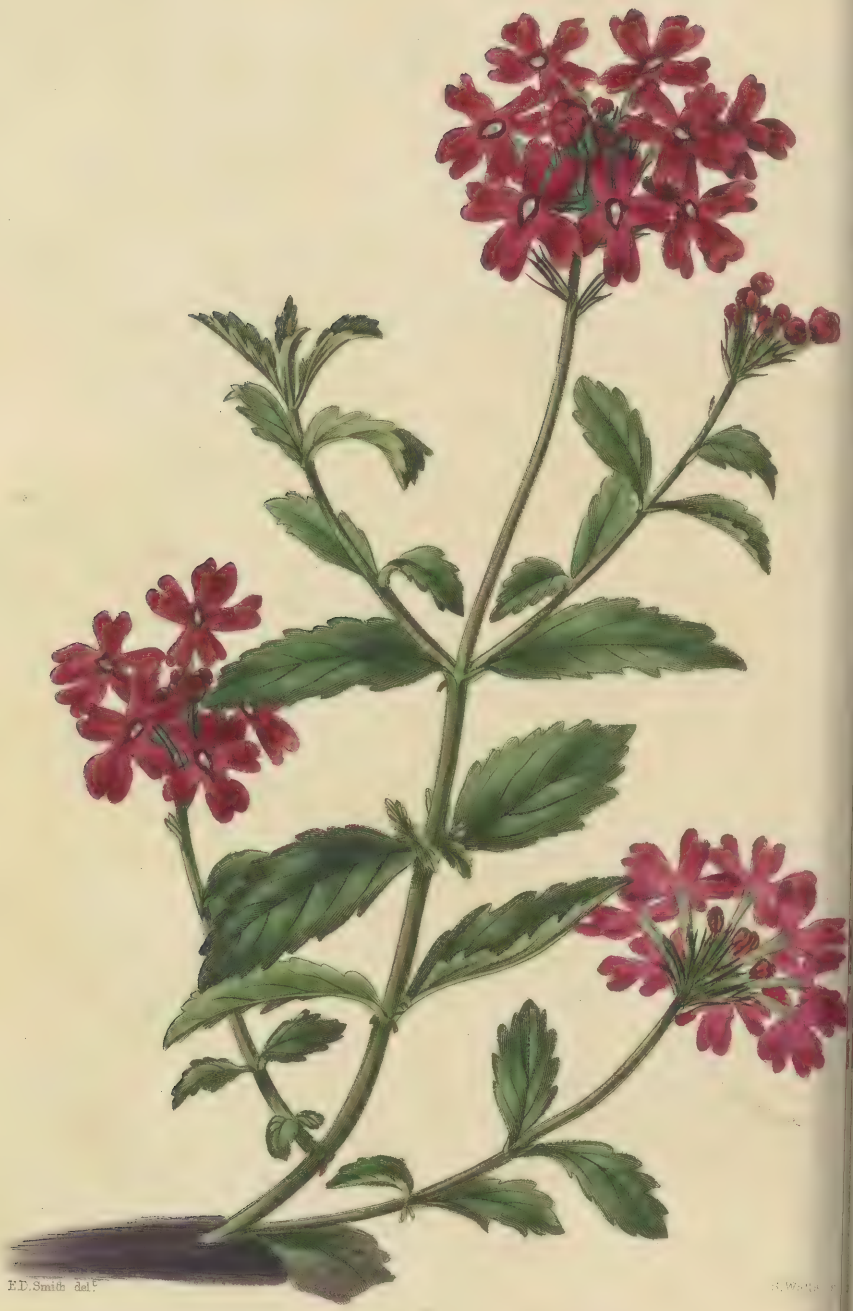
from whose stock most of the trees of this sort now in existence derive their origin.

TREE, hardy, spreading, a great bearer.

FRUIT, ripens about the end of September, and will keep till Christmas, colour pale, seldom marked with red, skin shining and of a waxy appearance, juicy, flavour good, but mostly used as a kitchen fruit.

This apple, with the Hawthorndean, to which it is somewhat similar, should have a place in every garden, however small, as it produces its fruit in great abundance while very young, and seldom fails of yielding plentiful crops in almost all soils and situations. Like most of the codlings, this variety may be propagated from layers and cuttings; but of course these modes are inferior to the more usual one of grafting.

Verbena Melindris.



F.D. Smith del.

London Published by Thomas Kelly 17 Paternoster Row 1830.

No. 11.

VERBÈNA MELÍNDRIS.

SCARLET-FLOWERING VERVAIN.

Class 14. DIDYNA'MIA.

Order 2. ANGIOSPE'RMIA.

Natural Order.

VERBENÀCEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Chili & Buenos Ayres.	1828?	Bot. Reg. 1185.	Flower Garden.	Light Garden Mould.
Time of Flowering	*Height.*	*Synonyms.*	*Mode of Propagat.*	*Duration.*
June to Sept.	6 to 8 Inches.	Chamædrifolia.	Cuttings.	Perennial.

GENERIC CHARACTER.—Calyx, five-cleft. Corolla, funnel-shaped, with an incurved tube, and an unequal five-cleft limb. Stamens, four fertile. Fruit, bladdery, covered, and withering. Seeds, four.

SPECIFIC CHARACTER.—Stems round, spreading, hairy. Leaves opposite, oblong-lanciolate, serrated, hispid on both sides, tapering into a short *petiole*. Flowers, bright scarlet, arranged into a corymbose spike. Calyx, hispid. *Bracteæ*, hispid, awl-shaped, shorter than the calyx. Corolla longer than the calyx, segments flat, oblong, emarginate, the lower one longer than the others.

The GENERIC NAME, VERBE'NA, is said by De Theis to be derived from *ferfaen*, its name in Celtic.

The SPECIFIC NAME, MELI'NDRIS. The vernacular application in the province of Buenos Ayres, where it abounds.

GENERAL OBSERVATIONS.—This, of all the genus, is the most splendid and most deserving the attention of the flower-gardener. The facility with which it is increased by cuttings, and naturally, when planted out, by rooting from the prostrate stems, has already rendered it common in all the best gardens in the vicinity of London; and that it will, ere long, find a place in the most remote gardens of Britain, requires not the gift of prophecy to tell. For the decoration of the green-house, conservatory, and drawing-room, few dwarf-growing plants can exceed it; and

although it requires the protection of a frame during winter, it may be asserted that it is amongst the greatest acquisitions that the flower-garden has recently received. As a general mode of culture, we would recommend annually in spring to propagate this plant abundantly from cuttings; for which purpose a number of plants should be constantly kept in pots during the winter, proportioned to the number intended to be propagated. From six to twelve plants, under ordinary good management, will produce a stock by the season of planting sufficient for the largest garden. The facility with which it strikes root in any light mould, renders any particular detail superfluous. When the plants are rooted, they ought to be potted off into pots of the size called small sixties, in which they may remain until the middle or the latter end of May, when they may be planted out in the flower borders. Any moderately sheltered situation will suit them, and to produce the most imposing effect, they should be planted in beds or groups by themselves. The beautiful scarlet colour of the flowers will form an agreeable contrast, if properly blended, amongst the delicate blues of the family *Lobelia,* the whites of *Iberis, Dianthus,* &c., and the variegated hues of the beautiful and various-coloured varieties of *Viola Tricolor,* and similar plants of dwarf habits. Such an arrangement would form what may be called an embroidered margin to the richest *bouquet* of mingled colours in the garden of Flora.

In page 13 we commenced our observations on the selection of flowers, and the arrangement of them in a group. In continuation, we would particularly advise the pupil not to place the flowers too closely together, so as to exclude the appearance of green in the centre of a group; and in order to prevent him from adopting that style of grouping, we refer him to the drawings of flowers by different masters, some of which will be found to possess one mass of flowers, without the least green, or open space in the centre, to give relief; whilst in others, (and to those we would recommend the pupil to attend, as it will be only necessary to compare them with the former, to confirm his mind in which he should adopt,) the direct contrary will be observed, inasmuch as the flowers will be scattered in a careless manner over the group with the greens, and occasionally the back-ground appearing between, causing a light and pleasing look, and enabling the eye to pass over the subject with pleasure, not being tired nor distressed by one continued mass of bright colours, but receiving relief from the green, which the eye is always found to rest upon with pleasure.

The pupil will also find the following advantage in this disposition of the flowers, for in some instances, where it will not be in his power to give that brilliancy to the colours, which the subject may require, the placing of some heavy green leaf next to it will add considerably to its beauty; and in the light and shade of the subject, so much more can be done, when that plan is pursued, as much greater depth can be produced in addition to the richness that it will give, for in this case he will not be so restricted to the exact colour of nature, as in a flower; with the greens he may, without much impropriety, give rather a stronger or lighter tint than they possess in nature, according to the effect that he may wish to produce. The pupil should also avoid introducing long straight stalks in the centre of a group, but give them as graceful turns as possible, without departing too far from nature, and occasionally allowing them to be interrupted by a leaf or flower, by which means a greater degree of interest will be excited, and a pleasing variation given; at the same time that strict attention should be paid to the thickness of the stalks, and the connection that they may have to the flower for which they are intended, so that it may be easily understood, as it always has a bad appearance to introduce them without any meaning.

KERRY PIPPIN.

The greens, a tint of Indian yellow and Prussian blue; for the back of the leaf, add a little lake, using it very light. Veins, some will be a yellow green, while others may

be represented by dark grey. Stalks, sepia. Fruit, first gamboge, then shade with grey of a yellow tint, taking care not to lay it on too heavily; for the red shade upon the fruit, carmine may be applied, in a dotted manner; other parts of the red may have a little neutral tint layed on in dots; after which lay on more yellow, and finish up the shade with a warm grey, and other parts of the fruit a little Indian yellow.

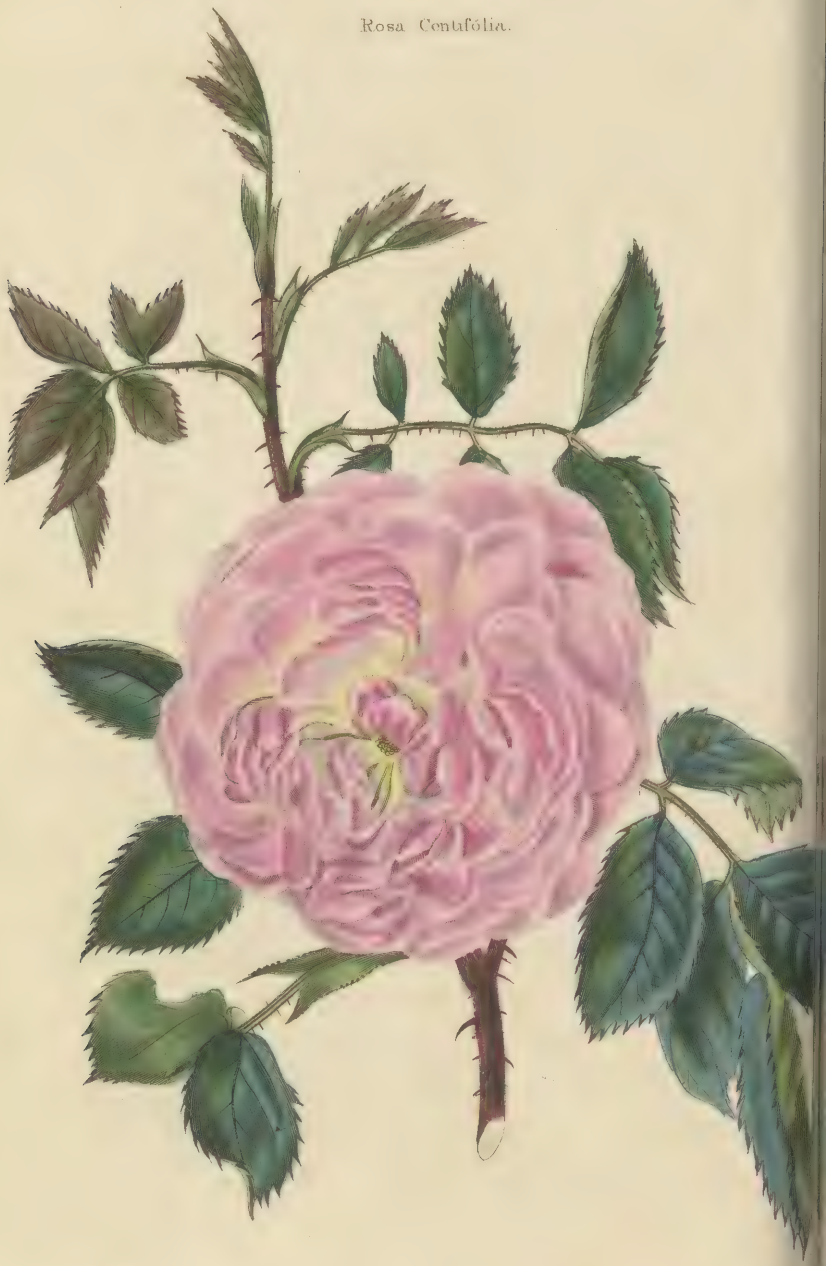
MANKS' CODLING APPLE.

For the leaves of this subject, mix up a green of Indian yellow and Prussian blue, and shade them with a stronger tint of the same; back of leaf, light blue green, made of the above colours; stalks of leaves, first light green, then pass a little lake over; veins, dark grey. First tint for the branch, sepia, and shade with sepia and grey mixed together. Fruit, first wash a tint of gamboge all over, then lay on the shade with a greenish grey, and take care to soften it off well round the margin; for the red upon the fruit, a light tint of carmine, mixed with Indian yellow, the spots of the same colour darker, afterwards a little Indian yellow over the light side, and finish up the shade with grey.

VERBENA MELINDRIS.

The green of this plant will be produced by a mixture of gamboge and Prussian blue, and shade with a green of Prussian blue and Indian yellow; pass down the stalks, which should be rather more yellow, a light tint of lake. The flowers of this plant being so brilliant, care must be taken that the colours be as clean as possible. First lay on a tint of chrome; when dry, pass all over the same with a mixture of powder carmine, mixed up with hartshorn: the buds should have less chrome, but shaded in the same manner as the flowers, with carmine, using a little gum-water to give brilliancy: the back of the flowers the same as the buds, but scarcely any chrome, and where there is a shade on the flower, it may be produced by a light tint of purple, which, when laid over the scarlet, forms a grey. The hairs upon the plant may be touched in with neutral tint.

Rosa Centifólia.



E.D. Smith. delin.

London, Published by Thomas Kelly, 17, Paternoster Row, 1830.

No. 12.

ROSA CENTIFOLIA, *var.* SHAILER'S PROVINS.

SHAILER'S PROVINS ROSE.

Class 12. ICOSÁNDRIA.

Order 3. POLYGY'NIA.

Natural Order.

ROSÀCEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
South of Europe.	1596.		Flower Garden.	Rich Soil.
Time of Flowering.	*Height.*	*Synonyme.*	*Mode of Propagat.*	*Duration.*
June to Aug.	Three feet.	Rosa provincialis.	Layers & Cuttings.	Shrub.

GENERIC CHARACTER.—Calyx urceolate, five-cleft, contracted at the orifice. Petals, five. Grains or seeds, bony, hairy, included in the fleshy tube of the calyx.

SPECIFIC CHARACTER.—Spines unequal; the largest sickle-shaped. Leaflets, glandular and ciliated. Flowers, drooping or pendulous. Calyx, clammy. Fruit, oblong.

The GENERIC NAME, ROSA, is derived from *rhos*, signifying red in Armorican; whence Rosa in Latin and in all modern languages, with but slight deviations.

The SPECIFIC NAME, CENTIFOLIA, or hundred-leaved, from the multiplicity of petals, or leaves of the flower, of which the flowers of some varieties of this species are composed. *Variety, Shailer's,* from a well-known cultivator of this beautiful genus of that name.

GENERAL OBSERVATIONS.—The rose, from time immemorial, has been held in great esteem, not only on account of its extreme beauty, but also for its medicinal properties. It is the emblem of beauty, and Flora's pride. It reigns queen of flowers in every part of the globe of which it is a native, and its praises have been sung by the bards of almost all civilized nations. The number of cultivated roses are now exceedingly great, some catalogues enumerating above 800 varieties, and every returning season adds to that number,—a sufficient proof of their popularity.

Our present subject is a variety of that section of this genus, denominated provins roses, and was originated in this country about the beginning of the present century, by a cultivator of eminence, and whose

name it bears. Its cultivation is the same as that of the other varieties of roses of similar habits, namely,—by cuttings, when scarce, but more generally, and always most successfully, by layers, which root freely, and are the season following in condition to be disengaged from the parent, and treated as distinct plants.

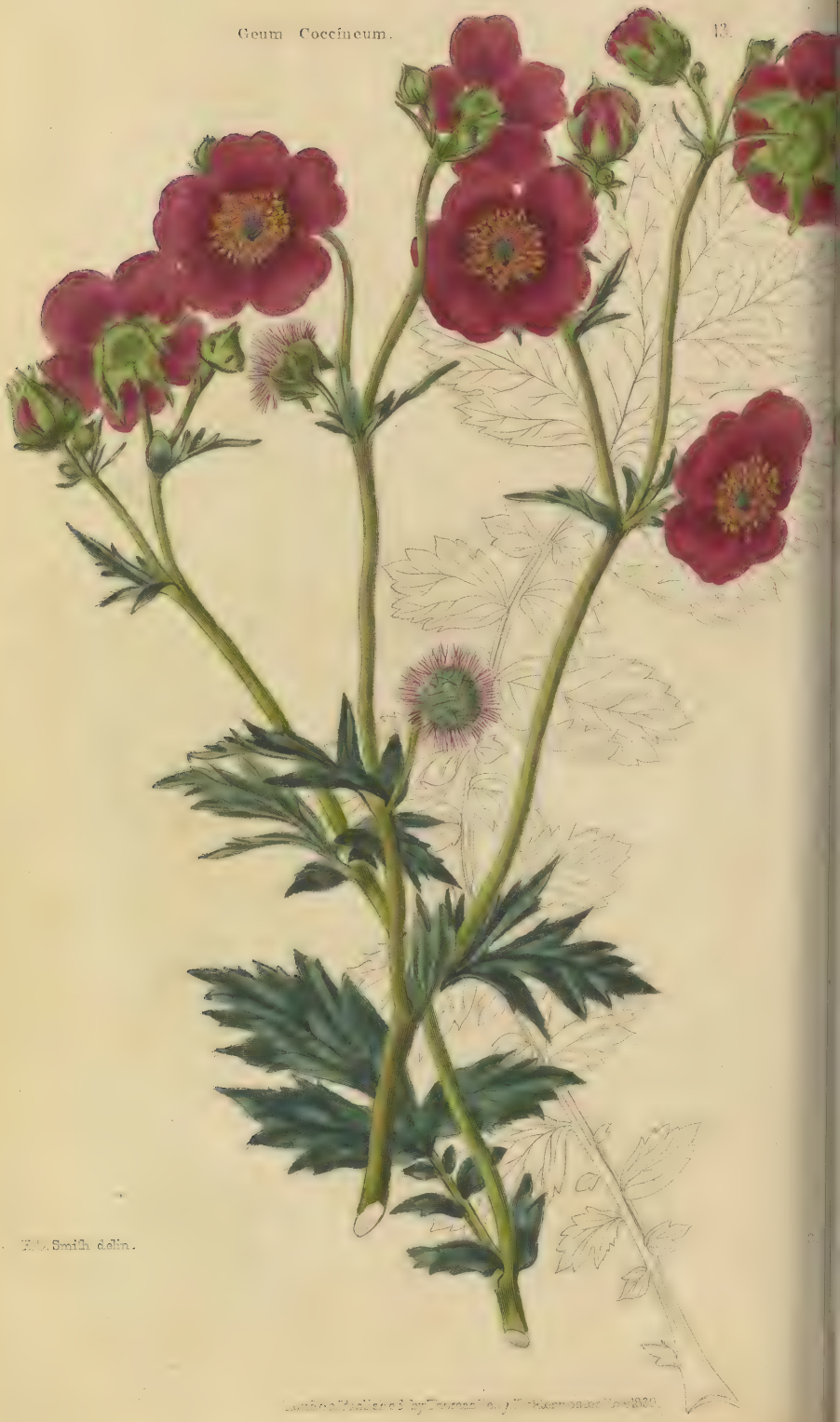
As the varieties of roses have increased in number, the improvement in their cultivation has also made rapid progress. Roses are now seen in flower three-fourths of the year; they are cultivated in the parterre, covered with bloom when scarcely six inches high; they are elevated by budding on tall stems, and assume the habit of trees; and, by the same process on the common climbing roses of our woods, made to expand their various hues, and diffuse their fragrance, reclining amongst the branches of the sturdy oak.

In the flower-garden and rosery they are cultivated to the greatest advantage when laid close to the ground, and the shoots of the preceding season annually pruned in spring to within two or three buds of their lower extremity. This practice is, however, only to be adopted with the hardier sorts, the more delicate ones being liable to be injured, if pruned in this manner before the latter end of May. By this mode of culture, the surface becomes soon completely covered with rose-buds and leaves of various sorts.

The idea of elevating various kinds of dwarf-growing roses on tall stems, or what is generally termed tree-roses, originated, we believe, with the Dutch, who have always displayed a great predilection to whatever was stiff, formal, and, we may add, ungraceful, in the decorations of their gardens. It must, however, be admitted, that budding the more delicate varieties on the robust and hardy woody sorts, such as *R. Canina,* the dog-rose, *R. Villosa,* the tree-rose, has this advantage, that the finer varieties may be planted in situations where they could not otherwise be grown, as the necessary culture cannot, in all situations, be applied to their roots, and if omitted, would materially degenerate the variety. Where the staff-like stem, which supports their heads can be partially or even completely hidden with other shrubs, there can be no objection to the practice; but otherwise, and more particularly on lawns, where we so often see them, there is something unnatural in seeing, as it were, a large nosegay elevated on a pole. Where the climbing species of our wild wood-roses are either natural, or have been planted in our woods and pleasure grounds, and have attained a considerable height, a good effect would be produced in many situations by budding various kinds of garden-roses on them, as well as by introducing many of the climbing exotic species also.

Our drawing was taken from a plant in the highly respectable nursery of Messrs. Whitley, Brames, and Milne, at Fulham.

Geum Coccineum. 13.



W. H. Smith delin.

London Published by Longman & Co. & T. Hodgson Jun. 1829.

No. 13.

GÈUM COCCÍNEUM.

SCARLET-FLOWERING AVENS.

Class 12. ICOSA'NDRIA.*

Order 3. POLYGY'NIA.

Natural Order.

ROSÀCEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Chili?		Bot. Reg. 1088.	Flower Garden.	Any good Garden Mould.
Time of Flowering	*Height.*	*Synonyme.*	*Mode of Propagat.*	*Duration.*
June & July.	1 to 2 Feet.		Seeds & divid. the Roots.	Perennial.

GENERIC CHARACTER.—Calyx ten-cleft. Sepals unequal. Petals five. Grains, or fruit, generally with a jointed awn.

SPECIFIC CHARACTER.—The colour of the flowers sufficiently distinguish this species from the rest of the genus.

The GENERIC NAME, GE'UM, is derived from the Greek *geyo,* to communicate an agreeable taste, the roots being aromatic.†

The SPECIFIC NAME, COCCI'NEUM, from the scarlet colour of the flowers.

* This class contains, comparatively speaking, very few herbaceous plants, the majority being either trees, shrubs, or succulents. Of the few hardy plants which it embraces, the family of *Potentilla* is certainly by far the most beautiful, and, with the addition of the herbaceous *Spiræas*, the genus *Dryas*, and our present subject, are the only ones worth cultivating in the flower-garden. This class, however, is by far the most interesting of any to the fruit-gardener, as it contains almost all the fruit-bearing plants that in general come under his care. In it are enumerated the apple, pear, peach, nectarine, plum, raspberry, strawberry, cherry, apricot, quince, and medlar; as less generally cultivated, but sufficiently interesting, the Indian fig, guava, pomegranate, almond, loquat, and various brambles; and of plants variously used in the arts may be mentioned the *Cactus Cochinillifer*, on which the cochineal insect feeds, the clove-tree, allspice or pimenta, &c. &c.

† The roots of *G. urbanum*, a British species, have a mild astringent aromatic taste, somewhat like that of cloves. The most aromatic roots are gathered in dry warm situations; whilst those from shady or damp places have but little virtue. They are said to communicate an agreeable flavour to fresh ale, and prevents it from turning sour. They have been used in medicine with various effects, and are well known to sweeten a disagreeable breath, if chewed in the morning, fasting.

General Observations.—The native country of this extremely beautiful plant is not correctly known. It is said to have been introduced into most of the principal gardens in Europe through the medium of M. Balbis, of Lyons. The genus, *Geum,* is well known as being composed of hardy plants of little beauty, and, until the appearance of the present species, was seldom cultivated in the flower-gardens. The *Geum Coccineum* is of the easiest culture, seeding abundantly, and increasing at the roots, in common with most of the herbaceous *Rosaceæ.* It is nearly allied to *Potentilla,* and experiments are now making to endeavour to produce hybrids between them; a circumstance highly probable, and, if successful, must be truly interesting. This plant, the *Potentilla Atrosanguinea, Formosa,* and *Russelliana,* a splendid hybrid produced between the two latter by Mr. William Russell, nurseryman, Battersea, should be extensively cultivated in every flower-garden.

The arrangement of plants, in order to produce the best possible effect in flower-garden scenery, is a branch of the cultivator's art that requires great nicety, both in regard to the selection of sorts and their routine of culture. It is not by bringing together a vast multitude of genera and species that variety and effect are produced; it is the proper selection of those species, however few, which nearly correspond with each other in habit and season of flowering, or which are somewhat characteristic of the situation in which they are planted, that will afterwards produce that harmony in outline which, when finished, as it were, by the proper arrangement of colouring, by blending those colours together which, when united, will produce beauty in masses, or compose a complete whole. Thus we have often thought that certain genera might be with much propriety grouped together in separate masses or beds, instead of scattering them promiscuously through the borders, some of which, like the genus *Pæonia,* would continue in bloom for several weeks, and, as they cannot ever be planted very closely together, might be succeeded by *Dahlias,* which would begin to flower almost by the time the former had decayed, and continue in bloom till destroyed by the autumnal frosts. Thus these two genera, with a sufficient number of varieties of each, would, with very little trouble, maintain a degree of perfection from the end of April till the middle of November, which no art on the part of the cultivator could maintain with a heterogeneous mixture of species. Thus again, the genus *Cistus* might be planted with much propriety, and allowed to cover the whole surface of the bed in which they grow, and would afford a succession of flowers from April to October. The amateur and young gardener should, in arranging their flower-gardens, consult the Encyclopedia of Plants, the best work in our language for ascertaining the colour of flowers, the height to which they grow, and the season in which they bloom.

P.D.Smith delin.

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XIII.

BON LOUIS PEAR.

Enumerated in Hort. Soc. Fruit Cat. Described in Ency. of Gard.; Forsyth's Treatise, 4th Edit. p. 142; *Practical Gardener*, p. 474.

This is one of the numerous excellent pears that claim their origin from France. The name, Good Louis, seems to imply that it came into repute during the reign of one of the king's of France of that name.

TREE, sufficiently hardy to ripen its fruit in the vicinity of London, as a standard, but with greater certainty and producing larger fruit on eastern or western walls; healthy; a good bearer.

FRUIT, middle-size, flesh extremely tender, and full of a very sweet juice, ripens about the end of November, and continues in use till the beginning of January.

This pear is a fruit of great importance in a climate like that of England, in which the more delicate kinds of fruits, such as some peaches, and the majority of vines, so seldom ripen, particularly in situations not exceedingly favourable. There are, indeed, a few varieties even of pears which may be said seldom to ripen perfectly with us; but there are also a sufficient number that do ripen. The pears of France, and more particularly those of Flanders, are held in the highest estimation, and several of them, which have been cultivated here, have ripened their fruit in great perfection; still the want of climate renders those even less rich in flavour than those which are ripened in either of these countries. The introduction of the finer pears of the continent has been principally effected by the Horticultural Society; the late *Mr. Braddick*, *M. Van Mons* of Brussels, the latter of whom, with *M. Duquesne*, have raised from seed and fruited above 800 different varieties of this fruit, and also by a few private individuals. The present Earl of *Lauderdale* has introduced many of the finer kinds both of apples and pears, and he has carried the desire of obtaining the fruit in perfection so far as to have had in his gardens at Dunbar many of them growing under glass. This, however, is a practice not likely to become general. We must therefore content ourselves with the possession of those sorts only which will ripen on our best exposed walls, espaliers, or standards; and if the more delicate must be had, then let them be imported annually from those climates more congenial to their ripening: many disappointments have occurred, and many fine varieties of pears have been sacrificed to the indiscreet haste of substituting a collection of the continental pears in room of those which have borne us excellent crops for years. Too much care cannot, therefore, be taken to ascertain from good authority the merits of fruits that require, under ordinary good management, many years before the

relative merits can be ascertained by their fruit. Limited collections should only be attempted, and the practice already recommended in this work, No. 6, of grafting various sorts on one common stock should be first put in practice in every garden where a desire for such fruits is entertained. Old established trees, if in good health, should, in our opinion, seldom be wholly removed to make way for young trees of the rarer or newer sorts, but they should rather serve for stocks on which to work only scions of them. By this practice the fruit will be much sooner produced, and, with good management, will form in a few years very handsome trees. Situations comparatively similar, and almost in the immediate vicinity of each other, will produce a great difference in the production of these fruits; some varieties succeeding in peculiar situations, while probably the whole art of man will never be able to make others succeed so as to repay the trouble of planting. This variety, in common with many others, ripens at various periods after the fruit is removed from the tree, as indeed is the case with all the best kinds of pears. Some attention, therefore, is necessary to be paid to their management after they are gathered. It is absolutely necessary that they be kept in a clean apartment or fruit-room, where they may remain free from being contaminated by disagreeable effluvia. Many methods have been recommended for their preservation, of which the following may be considered amongst the best, and was practised with much success by the late Mr. R. Ingram, gardener to Sir J. D. Erskine, at Torry, in Fifeshire:—For this purpose, he observes, "two apartments are requisite, a colder and a warmer, but the former, though cold, must be free from damp: from it the fruit is brought into the warmer room as wanted, and by means of increased temperature maturation is promoted, and the fruit rendered delicious and mellow. *Chaumontelles,* for example, are placed in close drawers so near to a stove that the temperature may be constantly between 60 and 70 degrees of *Fahrenheit.* For most kinds of fruit, however, a temperature equal to 55 degrees is sufficient. The degrees of heat are accurately determined by keeping small thermometers in several of the fruit drawers, at different distances from the stove. The drawers are about six inches deep, three feet long, and two broad; they are made of hard wood, fir being apt to spoil the flavour of the fruit: they are frequently examined, in order to give air and to observe the state of the fruit, it being wiped when necessary." In regard to the season of gathering pears, he observes, "that pears should have as much of the tree as possible, even although some frost should supervene; such as ripen freely, on the other hand, are plucked before they reach maturity." This observation is correct, and is applicable to almost every situation in this country, and even with respect to the finer late French pears, to the most favourable seasons, and the best situations.

BEFORE we close our instructions on the grouping of flowers, we will give some general remarks on the insertion of subjects which will impart considerable interest to the group. It will often greatly improve the appearance of the subject to introduce in the lower part of the picture some fruit, laid in a careless manner upon some picturesque leaf or other object, as it not only improves the look of the flowers, but gives weight to the lower part of the drawing; from which the necessity is at once apparent of keeping the upper part of a group the lightest, at the same time that it enables the pupil to hide the lower stalks of the flowers, which should always be done if possible, as they seldom look well if seen to terminate; nor does the introduction of a vase, nor any other object in which they may be placed, when the whole of it is exposed to view, alter the effect. Having introduced a little fruit, for the group should not be overburthened, but only two or three subjects admitted, and those not of a bright colour, so as to destroy the effect of the flowers; and in some parts, where it can be done with advantage, to allow a flower or two to lie upon the fruit, so as to give a natural look, and so placed as to appear as if dropped from the group above. Sometimes a bird's nest, with eggs, gives a very pleasing look, with the addition of a few insects among the flowers, and a drop of water upon a leaf or flower; all tend to enhance the natural look of the subject; but then the pupil must pay great attention to their accuracy, that they may appear natural, or they had better not be introduced. It will be advisable for the pupil to study some of the pictures of the old masters, such as Van Huysum, Van Os, &c., in which they have introduced the above-mentioned subjects into their compositions. Van Huysum was very happy in the introduction of fruit, a bird's nest, or insects in his pictures; and the beauty and accuracy with which he painted these subjects cannot be spoken of in too high terms. The pupil, therefore, should well examine them when any opportunity offers, and he should observe the way in which they are painted, also the grouping of the flowers, and the vases which he often introduced into his pictures, the bas-relief of which is so exquisitely finished that he must have always painted them after some elegant model. In the whole of his pictures may be observed a delicate composition, a beautiful harmony, and an astonishing effect of light and shade. In the grouping of his subjects he generally placed those flowers of the brightest colours in the centre of the composition, and gradually less bright towards the margin or outer parts of his group; so that they assimilated with the back-ground, and gave a depth and good effect to the whole. The pupil should pay great attention to the colour and kind of back-ground that he introduces; for in some instances, when the subject is rather full, it will look better plain or flat, and of a simple colour, and not by any means bright, as that would spoil

the effect of the flowers; but when there is room for the introduction of a little landscape, or distant object, it will greatly improve the appearance of the group, if well executed; but then the pupil should be careful not to overcrowd the back-ground, but let it be an inferior object, so that the eye may not be carried off from the flowers, which are considered to compose the picture.

SHAILER'S PROVINS ROSE.

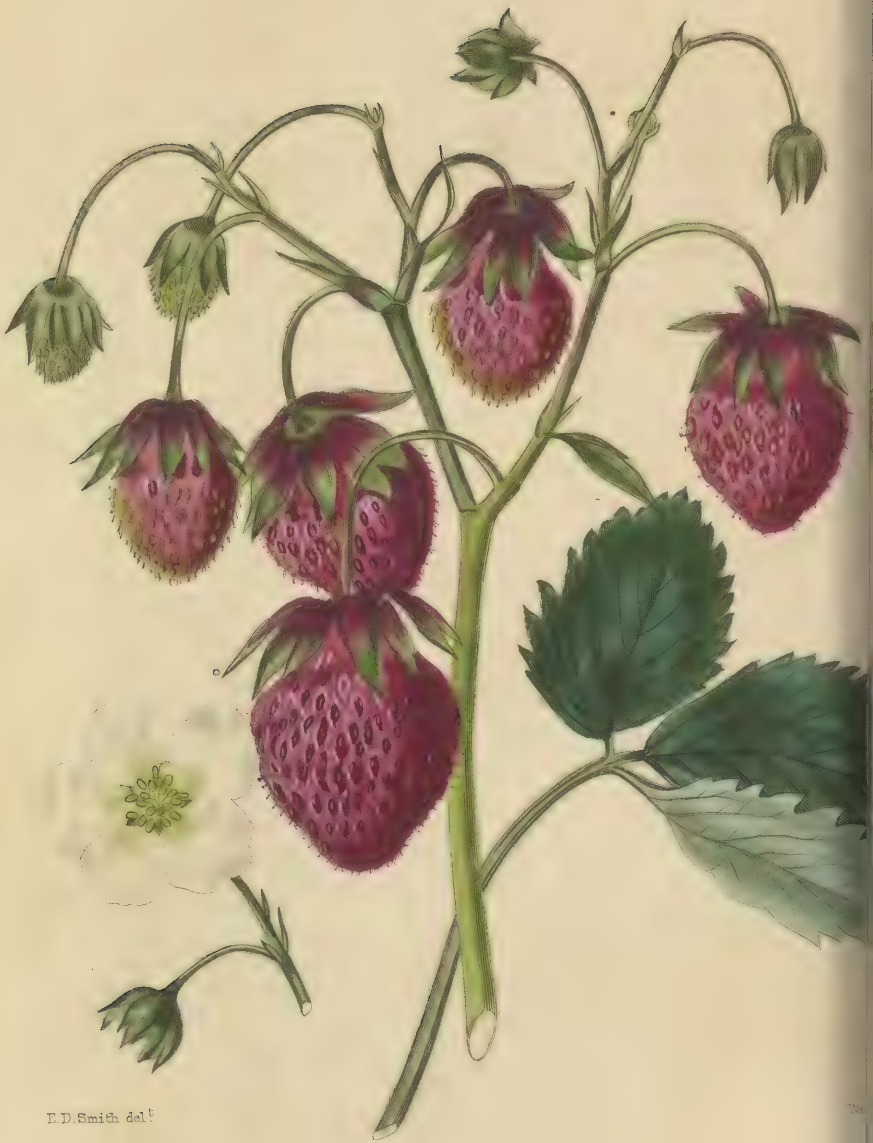
The greens to be produced with gamboge and Prussian blue, and finished with the same, with the exception of the dark shades, which should be of Indian yellow and Prussian blue. Where the stalks and leaves are of a red tinge, lay on a little carmine first, and then the greens over. The veins to be of a darker green. The teeth a mixture of carmine with a little green. Flowers, first a tint of powder carmine, with hartshorn, laid all over, and finish up the flower with a darker tint of the same and a litttle gum-water; the shade upon some parts of the flower should be of a light grey, some of which should be of a warm tint, very delicate, and the veins upon the flower, of carmine; for the centre use a little gamboge. All the colours should be laid on very lightly.

GEUM COCCINEUM.

The green of this plant is composed of gamboge and Prussian blue, first of all laying on the shade of those parts which are of a yellow green, and then passing the tint over, by which means they will be softened down, and a great degree of difficulty removed; the darker shade in the finishing may be of Indian yellow with Prussian blue, and the veins of the same. The first tint of the flowers should be chrome yellow all over, except the centre; after which lay on the powder carmine, mixed up as before mentioned; this being finished, shade with the same and a little gum-water in the colour, and if it should not be quite yellow enough, pass a tint of gamboge over; then lay on the veins of the flower with dark carmine, and introduce a little shade in some parts with a light tint of purple, made by the mixture of Prussian blue with the carmine. The centre of the flower should have a tint of green, and afterwards lay on the stamens with dark chrome, and some of them touched in with king's yellow.

BON LOUIS PEAR.

The greens of this are made with Prussian blue and Indian yellow, and shade with indigo and Indian yellow; the veins of the same green, darker. Round the teeth pass a little light sepia. The branch or shoot, sepia with a little lake, and shade with sepia alone. Fruit first a tint of grey, made by mixing Prussian blue, gamboge, and lake together: with, this tint, which should be rather of a warm grey, lay on the shade, softening it off on both sides; when quite dry, pass a light tint of gamboge all over the fruit, taking care to keep the margin or outline light. The next colour to be used is a light tint of lake, softened off as before; then a tint of Indian yellow in parts of the fruit; after which, more lake or carmine, as it may require, and finish off the shade with a mixture of Indian yellow and Prussian blue, with a little lake to give a brown appearance. The spots of a brown green, and some of sepia alone.



E.D.Smith del.t

London,Published by Thomas Kelly,17,Paternoster Row.1830.

XIV.

THE ROSEBERRY STRAWBERRY.

Figured in Hort. Trans. Vol. II. p. 380. *Enumerated in Hort. Soc. Fruit Cat. Described in Practical Gardener*, p. 505; *Hort. Trans.* Vol. VI. p. 156; *Ency. of Gard.*

The synonyms of this variety are—*Rose Strawberry, Prolific Pine, Scotch Scarlet, Aberdeen Scarlet, Rose Seedling, and Aberdeen.*

The name of Roseberry is said to have been bestowed on it because the original plant is said to have been discovered growing under a rose-bush.

Considerable mystery hangs over the origin of this fruit. It is, however, generally allowed that it appeared in Aberdeenshire, some time about the year 1808, in the garden of R. Davidson, Esq., from whom plants of it were received by Messrs. Cadenhead, nurserymen, in Aberdeen; and through them it was transmitted to London in the spring of 1815, where its appearance excited a considerable degree of interest, and was soon after distributed into almost every part of England. It was several years before that period extensively cultivated in Scotland.

Fruit, conical and pointed; sometimes the first-fruits assume a monstrous or cockscomb shape, especially when the plants are luxuriant. Seeds deeply imbedded. Flesh firm, pale scarlet. Flavour excellent, when fully ripened. Calyx, large and spreading.

Plant, more dwarf than any other sort, leaflets small, placed on very short, erect, hairy foot-stalks, oval, deeply and finely serrated, under side glaucous, upper side hairy. Old leaves remaining very perfect through the winter. Fruit-stalks very short, occasioning the fruit to be often destroyed, by being near or lying on the ground. Flowers large, petals often tinged with pink.

This strawberry has been extensively forced, and with very great success, and is found to set, swell, and ripen in a high temperature; however, it is inferior for this purpose to the Grove-end Scarlet. In the open air it is a very prolific fruit, and comes into use about a week, or less, after the Old Scarlet. It continues in bearing for several weeks, and occasionally till late in the season.

Plants of this sort, that have been forced in pots in spring, will, if turned out of them and planted into a warm shaded border, produce in autumn more abundant crops of fruit, as a late crop, than any other that

have come under our observation. Like the Downton, there is something in the general appearance of this plant, when growing in beds, that, even to an inexperienced eye, marks it as a distinct variety. In most soils, plantations of it require to be often renewed; and where this practice has been followed, the productiveness, size, and flavour, of the fruit have been increased.

The derivation of the name, strawberry, is rather obscure; it is, however, of very ancient date. The Latins named it *Fragaria,* from its fragrance; some others say that it is derived from *fragans,* to break, from its supposed efficacy of dissolving or breaking the stone in the bladder. It was also called *Morum terrestre,* from the great resemblance of the fruit to that of the mulberry. Our English name, strawberry, we find applied to it by our oldest writers, with scarcely any other synonym, and it is conjectured by the late Sir Joseph Banks to have originated from the practice of laying or placing straw under the plants to protect the fruit from being spoiled by mud in times of rain, or when watered artificially. The interesting author of Pomarium Britannicum traces the origin of the name to a still more remote date: "We are of opinion," says he, "that it had this appellation prior to its being cultivated in our gardens, and that the name of strawberry originated from the old practice of threading these berries on straws of grass, in which shape they were brought from the woods. It is still practised by children in many country places where the wild strawberry abounds, who offer the fruit at so many straws of berries for a penny."

The ancients appear to have disregarded the strawberry as a fruit-bearing plant. Virgil, Ovid, and Pliny speak of it slightly, and although the latter particularly mentions the bramble-berry, still he no where notices the strawberry as an article of diet, luxury, or medicine. It was in some repute in this country in the time of Tusser, who, in his quaint way, makes the farmer say—

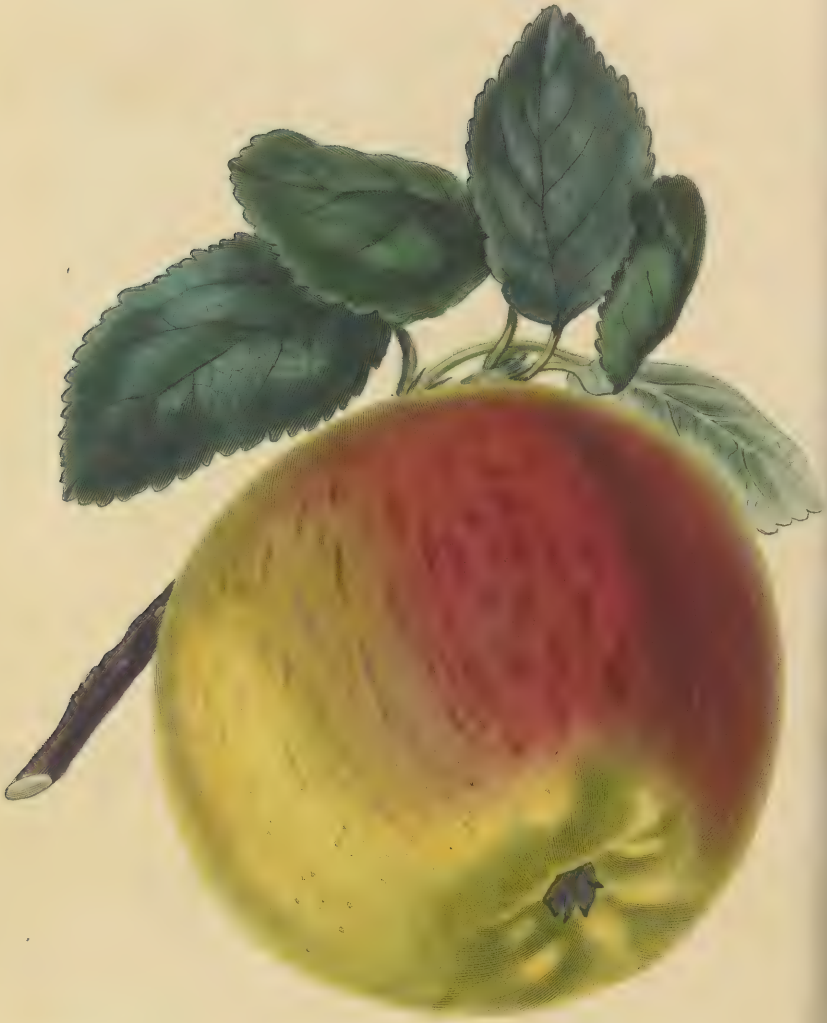
> "Wife, into the garden, and set me a plot
> With strawberry-roots, the best to be got."

And our immortal bard, Shakspeare, takes notice of them in Henry the Fifth; and in one of his dramatic poems says—

> "My Lord of Ely, when I was last in Holborn
> I saw good strawberries in your garden there."

Evidently alluding to the garden of the Bishop of Ely, who had a palace and garden near about where Ely Place, Holborn, now stands.

Kirkes Lord Nelson Apple. XV.



E. D. Smith del.t Watts sculp.t

London, Published by Thomas Kelly, 17, Paternoster Row, 1830.

XV.

KIRKE'S LORD NELSON APPLE.

This is an apple of English origin, and although it has been in cultivation for some years, its merits do not appear to be as yet sufficiently known, as we have observed it in few gardens remote from the metropolis. As a great bearer and excellent fruit, either for the dessert or kitchen, it has few equals, and certainly should find a place in every collection, however select.

Tree, hardy, flat headed, very great bearer, beginning to produce fruit while very young, and produces towards the extremities of the branches.

Fruit, ripens in November, and keeps till March, or longer, middle-sized, yellowish and red when ripe, somewhat transparent, and very weighty in proportion to its size.

Leaves, downy on the under side, small, longish, and shining; bracts at the base of the leaves, oval, sometimes falcate. Wood, while young, red and strong, slenderer as the tree becomes older.

General Observations.—In continuation of our observations on the diseases of vegetables occasioned by the nidifications, or depredations of insects, No. XI., we may add that, besides the *aphis laniger*, there are several other species of the same genus of insects that commit yearly attacks on the apple tree. An enumeration of their scientific names would be, in this place, probably as useless as an attempt at their entomological descriptions; suffice it to say, that as they are capable of reproducing a multitudinous progeny to the extent, says Reaumur, that, in five generations, one individual may be the progenitor of 5,900,900,000 descendants; and it is supposed, by the same intelligent author, that in one year there may be not less than twenty generations. Cultivators seldom specify the various species of aphides by their scientific names, but usually denominate them green fly, smother fly, plant lice, &c.; without stopping to inquire whether there be one or more species, they aim only at the most effectual method for their extirpation, and this too often without first studying somewhat of their habits and economy.

In order, therefore, to render our ideas of the destruction of these minute and numerous enemies more perspicuous, we beg to observe, that the aphides are naturally both oviparous and viviparous, that is, they are produced both from eggs as well as ushered into life in a perfect state, according to natural circumstances. The females deposit their eggs, in

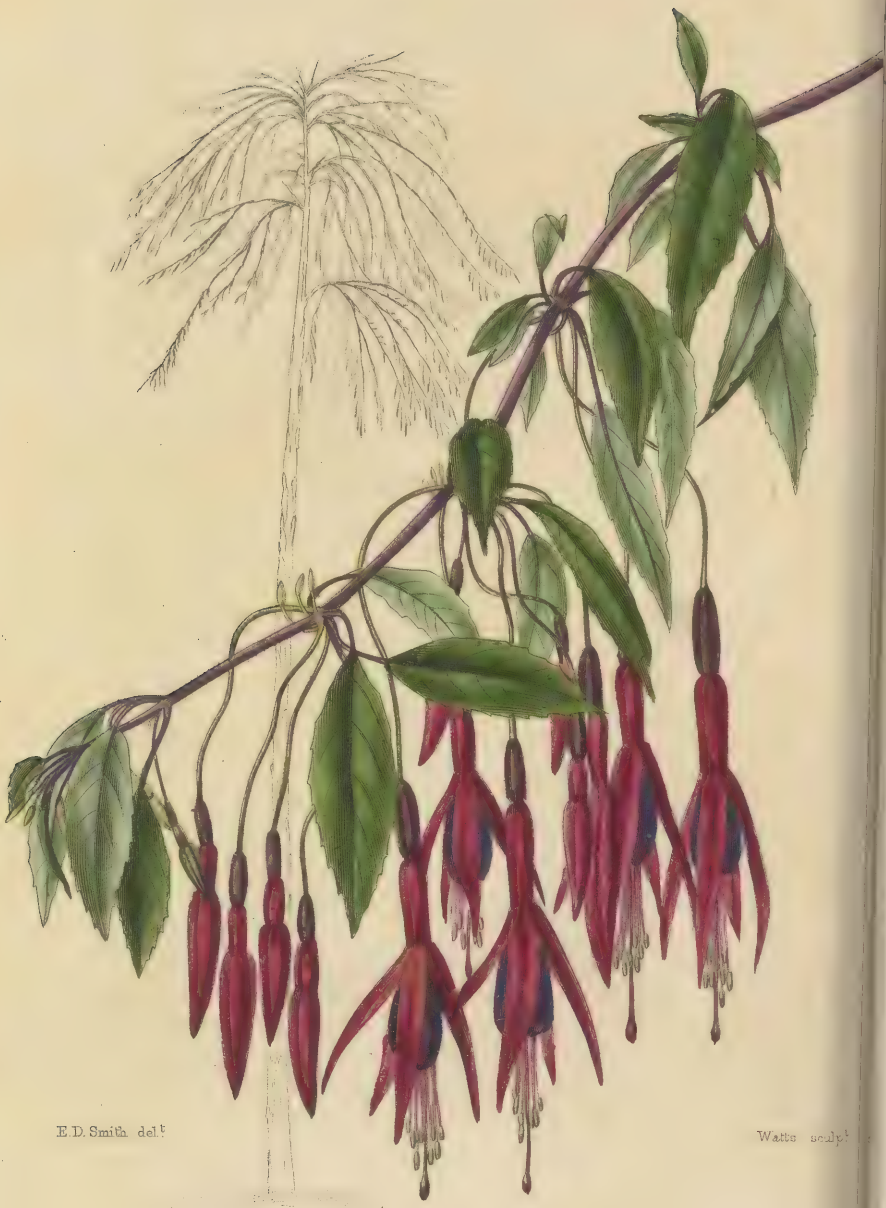
astonishing numbers, in autumn, and, in order that they may escape being devoured by their peculiar enemies, she carefully conceals them in the rugged bark of the trees, and in cavities near the buds, from whence the young are to be supplied with their first food. Cold seems to have no effect on them in their egg state, as these have been subjected to an intensity seldom experienced even in this climate. Hence the falsity of the doctrine of many practical men, who expose their trees, vines, &c. during winter, with a view of destroying this genus.

From the observations of Swammerdan, Bonnet, Dr. Richardson, Dr. Darwin, and other philosophers, we learn that these insects rise in the spring from eggs deposited by the female in autumn, and are believed to proceed not from a larva, or caterpillar, but a progeny similar to the parent, every one of which produces, in about ten days, not an egg but another living progeny to the ninth generation, without being connected amatorially with each other. The ninth generation produces males and females, some of both kinds with wings, and others without them; and the tenth generation, from those that were hatched from eggs, become amatorially connected, and produce eggs, which are laid on the branches and stems of trees for the next year's progeny, to be hatched by the warmth of the vernal sun.

Having thus far glanced at their economy, the cultivator will at once see that the season most proper for their destruction is early in spring and during the summer months, while they are in a state of life, and not during winter, as is too often attempted, during which it is evident that they remain in the egg, and which sufficiently secures them from the effect of most applications that have hitherto been used for their destruction.

The same cause which produces the bursting of the bud in spring calls into life the aphides also; and when we consider the vast number of eggs deposited in autumn, and, indeed, that are hatched in spring, we may well wonder that there is not tenfold more injury done by them. It would appear, however, that the first progeny, owing, probably, to the cold which usually prevails at that season, are chiefly torpid. The succeeding brood, however, as we have already hinted, which are viviparous, commence that career of destruction so much dreaded and so often experienced by the gardener.

Our drawing was taken from Mr. Kirke's nursery, Brompton.



E.D. Smith del.t

Watts sculp.t

London. Published by Thomas Kelly, 17 Paternoster Row. 1830.

No. 14.

FUCH'SIA GRÁCILIS.

SLENDER FUCHSIA.

Class 8. OCTA'NDRIA.*

Order 1. MONOGY'NIA.

Natural Order.

SANTÁLACEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Chili.	1823.	Bot. Reg. 847.	Green-house.	Peat & Loam.
Time of Flowering	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
May to Oct.	3 to 5 Feet.	Deccusata, B. Mag.	Cuttings.	Perennial Shrub.

GENERIC CHARACTER.—Calyx funnel-shaped, coloured, falling off. Corolla, consisting of four petals, placed in the throat of the calyx, and alternate with its segments. Nectary† an eight-furrowed gland. Stigma headed. Berry oblong, blunt, four-cornered, and four-celled.

* OCTANDRIA, the name of the eighth class in the sexual system of Linnæus, and includes such flowers as are hermaphrodite, having eight stamens, or male organs, of equal length. The name is derived from the Greek (*okto*, eight, *aner*, a man). This class is particularly interesting to the cultivator, as it contains one of the most numerous and splendid genera in existence, namely, that of *Erica*, or heaths.

† NECTARY, or NECTARIUM, is derived from *nectar*, the fabled drink of the gods, and has been denominated by some English botanists the *honey-cup*. The *nectary* was defined by Linnæus to be a part of the *corolla*, or appendage to the *petals*, appropriated for containing the honey, a species of vegetable salt, under a fluid form, that oozes from the plant, and is the principal food of bees and other insects. This definition has been severely handled by many of the later botanists, and M. de Jussieu declares that the term should be rejected from the science of botany altogether. Vaillant, so early as 1718, notices the *nectary*, and, although regarding it as a part depending upon the *corolla*, or *petals*, considered it of so little account as not to merit any particular appellation.

The *nectary* assumes a variety of forms in different vegetables. In some plants it is really a part of the *corolla*, since it lies within the substance of the *petals*. In many plants it is placed in a series, or row, within the *petals* or *corolla*, and yet is entirely

SPECIFIC CHARACTER. — Flowers much longer than the leaves. Leaves placed opposite, smooth, stalked. Branches slender, slightly downy.

The GENERIC NAME, FUCH'SIA, was given in honour of Leonard Fuchs, a German botanist of considerable reputation, and author of *Historia Stirpium*, with many excellent engravings in wood.

The SPECIFIC NAME, GRA'CILIS, from slender, weak, lank.

GENERAL OBSERVATIONS.—This genus long consisted of only two species, one of which was chiefly confined to collections strictly botanical; the other, the *F. coccínia*, has long been a popular plant in considerable cultivation, and justly admired. Since the date of the introduction of our present subject, this genus has had several highly-interesting species added to it, the chief of which have reached us from South America, where many species are still supposed to exist that have not yet appeared in our gardens.

The great merits of this genus are their exceedingly great beauty, easy culture, and free and abundant flowering. Most of the species are sufficiently hardy to stand in warm situations during our ordinary winters with very slight protection, and all of them may be added to our increasing list of flower-garden plants, particularly during the summer months. *F. arborescens* is probably of too robust a habit of growth for small flower-borders, but will succeed well on a warm wall. When planted in a conservatory, this latter species ripens its beautiful purple berries, which are more ornamental than the flower. All the genus are worth placing in the conservatories of the first class; and are exceedingly beautiful when grown in pots in the green-house, or trained to columns in the way of dwarf climbers.

Very large specimens of *F. coccínia* are often to be met with in old green-houses; one at Salt Hill is of uncommon size and beauty, and is supposed to be the largest in the kingdom.

Our drawing was taken in the nursery of Mr. Knight, King's Road, Chelsea.

unconnected with their substance. In some it is situated upon, and makes a part of the *calyx*; in others it is situated upon the *anthers*: in others upon the *filaments*. In some it is placed upon the *seed-bud*; and in others it is placed upon, or attached to the *common receptacle*. There are some instances where it is of such singular construction, as cannot, with propriety, be referred to any of the preceding heads. A knowledge of the various species of *nectary* is of indispensable consequence in investigating the genera of plants.

We will now continue our remarks upon the light and shade of the group. In a former page we spoke of the position in which the subject should be placed to produce a pleasing effect, and also of keeping the light in one mass, as much as circumstances will admit. In laying on the grey in those parts of the group which are in shade, the pupil should endeavour, as much as possible, to work it in with the colour of the subject upon which it may be thrown, and to avoid, as much as he can, allowing it to appear as a distinct colour. It ought to be laid on so as to give effect, and form a shadow, without interfering with the subject upon which it is placed. If we observe nature, we may see the different bends and undulations of a leaf affected by shade, but then that shade does not catch the eye, because it partakes so beautifully of the colour of the green of the leaf; and if it be a shadow cast from one object upon another, then it will be dark, according to the distance that such object may be from the one upon which the shade is; or in proportion that the subject is opaque, or hard at the edge, so will the shadow be affected. It will be proper for the pupil to try the effect of one object upon another in nature, he will then observe the difference of shadow, according to the kind of object which is the cause of it. If it be a shadow thrown from a round object, then the darkest part will be in the centre of such shadow, and the edge, or margin of it, will be light; but if from a flat object, then the shadow will be the reverse, according to the thinness or opacity of the object which is the cause of it: and, again, the colour of the shadow will often be affected by the object that is the occasion of it; for if it be of a thin and transparent substance, then the shadow will receive a reflection from the object which forms it, and that reflection will partake of the colour of which it is composed. The pupil will be careful to keep the shadows as warm as the subject will admit of, generally making them warmer than the object upon which they may be placed, this being one means by which we have an opportunity of making a composition of flowers, which might otherwise have a cold look, appear the reverse, it being always desirable to keep the general appearance of a group of flowers as warm as can be done with propriety. The proper disposition of the shadows being one means by which confusion is prevented, the pupil should pay strict attention to the position of them in nature, as they will in no instance be found to create a bad effect, there being no two objects in nature near to each other with the same degree of shade upon them.

ROSEBERRY STRAWBERRY.

First lay on a tint of lake in those parts of the plant that have a red appearance, then the green, made of Prussian blue and gamboge, afterwards lay on more red where it may require it, then work up the green with the same colour, sometimes

using a little indigo with the gamboge in those parts that are dark. Fruit, first tint powder carmine with hartshorn, leaving some of the lights, then lay on a tint of gamboge, to give a scarlet look, afterwards more carmine, and making out the shades in the fruit with a little purple of lake and Prussian blue, and work up the fruit with the three colours mentioned, taking care to keep the lights, some of which may be put on with white; the seeds may be introduced with king's yellow. Flower, first a light tint of grey, then wash over a very light tint of gamboge, and put in the stamens with king's yellow.

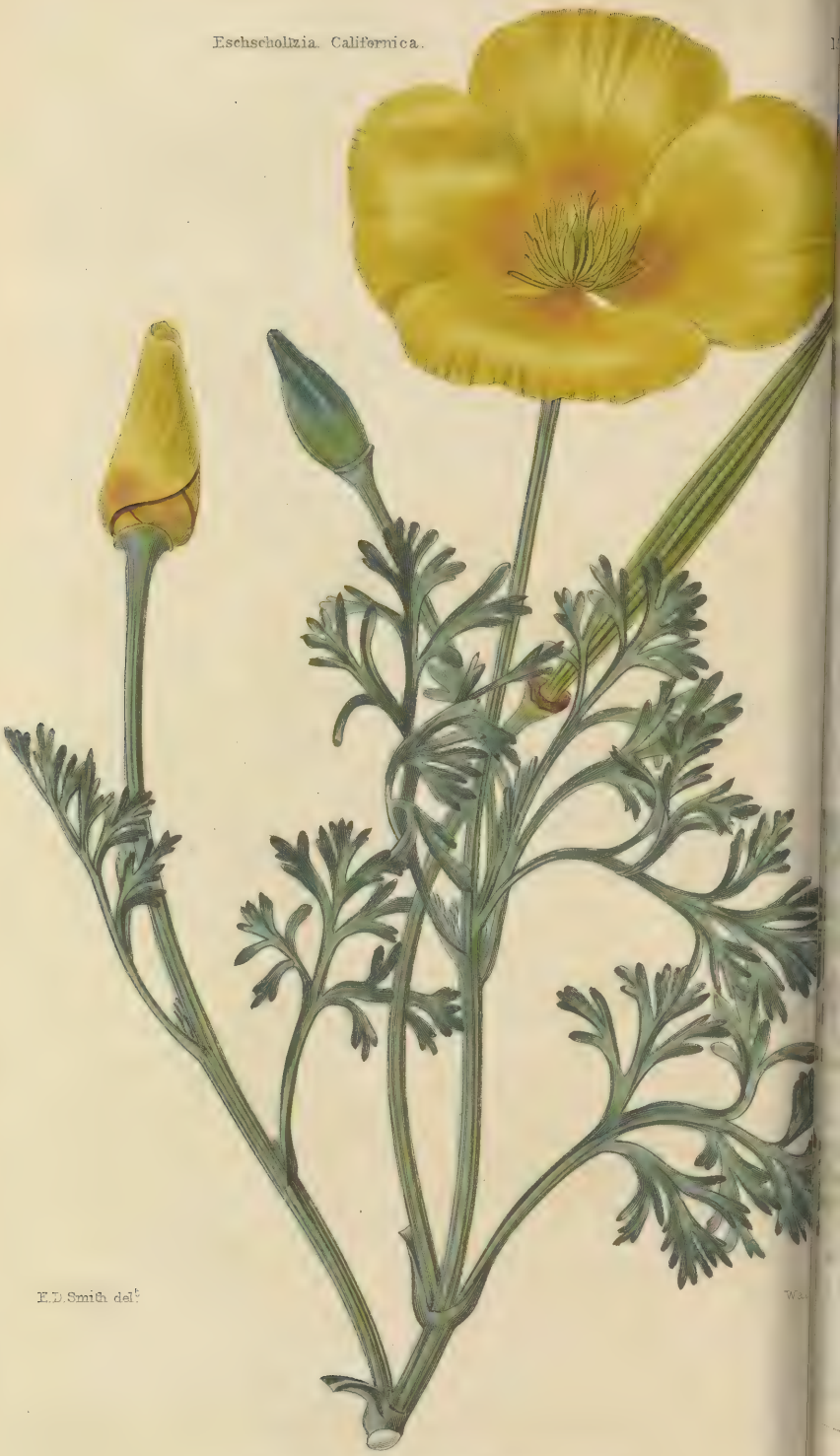
KIRKE'S LORD NELSON APPLE.

First tint of green, Prussian blue and gamboge, and shade it with indigo and gamboge. Fruit, first lay on the shade with grey, made by a mixture of Prussian blue, gamboge, and lake, laid on in a soft manner, then lay on a tint of gamboge all over, for the red lay on carmine in small touches, and finish up with a mixture of carmine with the grey, to give a warm look, after which it may require more gamboge, and perhaps a little Indian yellow.

FUCHSIA GRACILIS.

The green of this subject may be produced by laying on the shade first, with indigo and gamboge; when dry, lay over a tint of gamboge and Prussian blue, and finish up with the same. Stalks, first a light tint of red purple, then a tint of yellow green, and shade the same with a tint of the two colours mixed together. Flowers, first lay on a tint of chrome over the calyx; when dry, lay over powder carmine, mixed up as before-mentioned, and finish up with more carmine and a little gum-water; if it should not be quite yellow enough, lay over some gamboge. For the seed, a mixture of lake with Prussian blue, and in some parts a little green. For the petals of the flower, first a tint of azure blue or smalt, then lay on a little carmine, if not bright enough, lay on more blue, with some gum-water in it.

Eschscholtzia. Californica.



E.D. Smith delt

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London, Published by Thomas Kelly, 17, Paternoster Row, 1830.

No. 15.

ESCHSCHÓLTZIA CALIFÓRNICA.

MR. MENZIES' ESCHSCHÓLTZIA.

Class 13. POLYÁNDRIA.

Order 4. TETRAGY'NIA.

Natural Order.

PAPAVERÀCEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
California.	1826.	British Flower Garden, 265.	Flower Garden.	Any good Garden Mould.
Time of Flowering.	*Height.*	*Synonyme.*	*Mode of Propagat.*	*Duration.*
July to Sept.	1 to 2 Feet.		Seeds.	Perennial.

GENERIC CHARACTER.—Calyx, calyptra-like, one-leaved. Capsul, siliquæformis, two-valved. Seeds, small, globular. Petals, four, obovat, inserted into the receptacle.

SPECIFIC CHARACTER.—Root, perennial and fleshy. Plant, smooth, much branched. Leaves, alternate and opposite, glaucous. Peduncles, axillary. Petioles, slightly winged.

The GENERIC NAME, ESCHSCHO'LTZIA, was given by Chamisso, in honour of Dr. Eschscholtz, a Prussian botanist of considerable talent.*

* DR. HOOKER, as editor of the Botanical Magazine, has added the following interesting note under the figure of this plant, and which should be generally known, in order to prevent confusion in the nomenclature of plants, as at present we have *Elshóltzia* and *Eschschóltzia*, being plants very dissimilar to each other, although the names are nearly the same.

"Named by Chamisso in honour of Dr. Eschscholtz, an eminent botanist and entomologist, who accompanied him as a fellow-naturalist in the voyage round the world, under the command of Kotzebue. It is not, perhaps, generally known that this gentleman is a descendant of the John Sigismund Elsholtz, a Prussian botanist, author of a *Flora Marchica*, and after whom Willdenow named the *Elsholtzia cristata*. The Russians, into whose service the present Elsholtz went, wrote his name Eschscholtz, by mistake. The genus is now so well established, that the alteration to another generic name might create unnecessary confusion." The *Elsholtzia cristata* is a very insignificant plant compared to the present, and not worthy a place in any other than a collection strictly botanical.

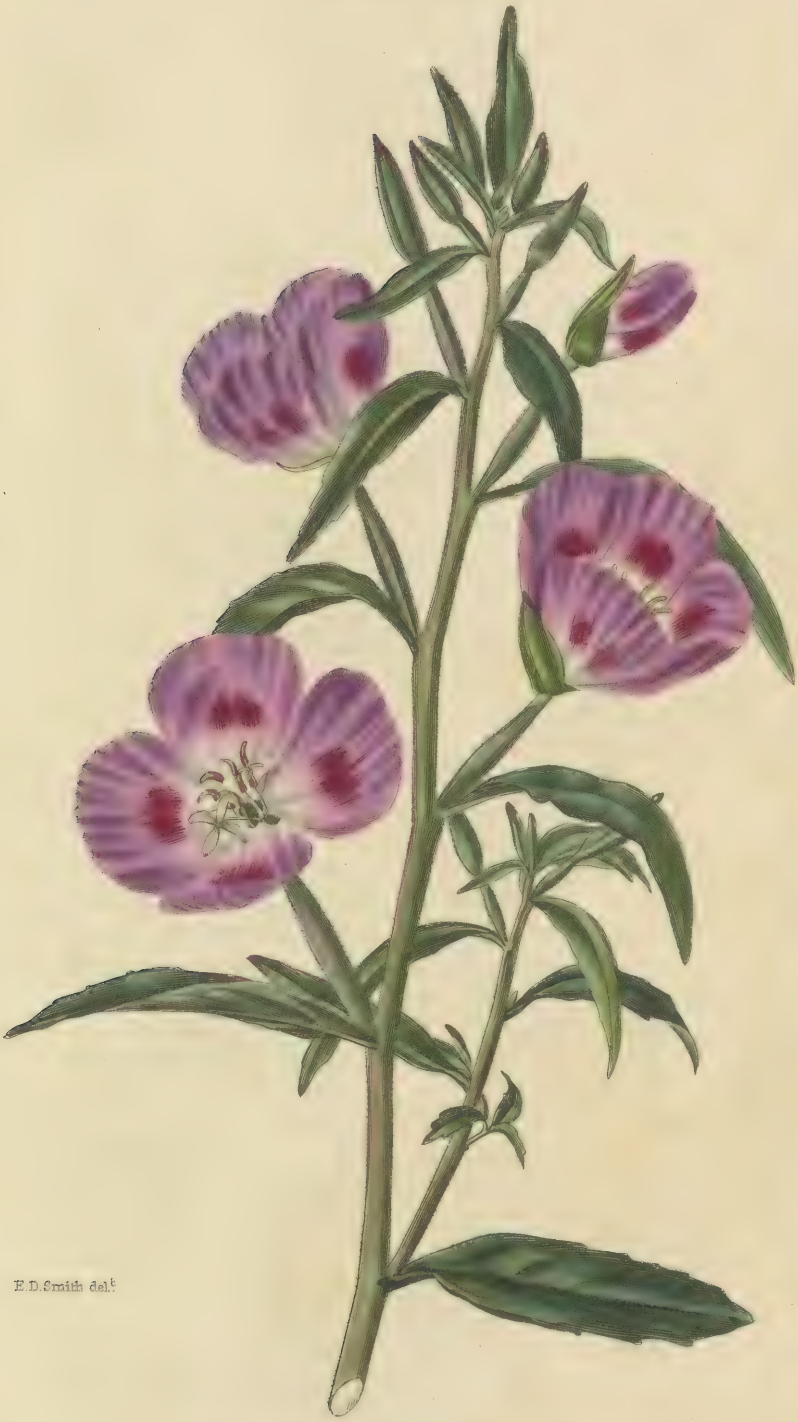
The SPECIFIC CHARACTER, CALIFO'RNICA, from its native country, where it was long ago discovered by A. Menzies, Esq., F. L. S., a botanist of great respectability, and who accompanied Vancouver in his voyage round the world. Living plants were, however, first raised from seeds sent to the Hort. Soc. by Mr. D. Douglass.

GENERAL OBSERVATIONS.—As a flower-garden plant, this is very desirable, and has produced seeds with us, but not in very great abundance, neither are plants from them raised without difficulty. The roots are fleshy, but are not capable of being conveniently divided, so that it will not become so common as some other plants recently introduced. The seeds ought to be sown in spring, in pots, and when the plants are about an inch and a half high transplanted into small pots, singly, where they should remain in a cold frame or pit till large enough to plant out in the flower-borders. This plant, like many others of similar habits, is admirably calculated for planting in groups or beds, and as it continues to produce a succession of flowers, presents a gay and uniform appearance, which individually would not be the case, independently of which the plants, when planted in masses, support each other without the necessity of artificial means, which is seldom done with sufficient taste to contribute either to the beauty of the plants or neatness of the flower-garden.

It may be necessary to observe, that the *Eschscholtzia* is not a very hardy plant, and although it has stood the severity of the winter in many gardens where the soil has been dry, we would suggest the propriety of covering it during hard frosts with fern or dry litter, and always to plant it upon a dry border.

Interesting hybrids may be expected between this plant and some of those of the same natural order.

Our drawing was taken in the nursery of Mr. Knight, King's Road, Chelsea, eminent not only for an excellent general collection, but to which many valuable additions have been lately made, and more may be expected from seeds brought from New Holland by Mr. Baxter, an enterprising botanical collector.



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London Published by Thomas Kelly, 17, Paternoster Row, 1830.

No. 16.

ŒNOTHÉRA LINDLÈYII.

MR. LINDLEY'S ŒNOTHÉRA.

Class 8.	*Order* 1.
OCTA'NDRIA.	MONOGY'NIA.

Natural Order.

ONAGRÀRIÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
N.W. Coast of North America.	1826.	Bot. Mag.	Flower Garden.	Any good Garden Mould.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
June to Nov.	12 to 18 In.		Seeds.	Annual.

GENERIC CHARACTER.—Calyx tubular, four-cleft; segments deflexed and falling off. Petals, four, inserted in the calyx. Stigma, four-cleft. Capsuls, four-celled, four-valved, inferior. Seeds, naked, fixed to a four-cornered central receptacle.

SPECIFIC CHARACTER.—Leaves, linear-lanceolate, smooth. Capsuls, axillary and cylindrical. Petals, lilac, frequently beautifully marked with rose-coloured spots, sufficiently obvious to constitute several varieties.

The GENERIC NAME, ŒNOTHE'RA, is of Greek derivation, indicating that the roots eaten after meals are incentive to wine drinking.

The SPECIFIC NAME, LINDLE'YII, was given to this species by Dr. Hooker, Regius Professor of Botany at Glasgow, at the request of Mr. David Douglass, who discovered the plant, in compliment to John Lindley, Esq., Professor of Botany in the London University.

GENERAL OBSERVATIONS.—The genus to which our plant belongs is chiefly composed of natives of North America, and consequently hardy; they have readily found a place in our flower-gardens, to which they are justly entitled, being both ornamental and of easy culture. The prevailing colour is yellow, which should be borne in mind in the disposing of them in the flower-borders. During the present century, very important additions have been made to this genus, but none more so than

that which has been effected by the indefatigable zeal of Mr. Douglass, who has not only added largely to the number of the species, but in those species some of the most beautiful of the genus are to be found.

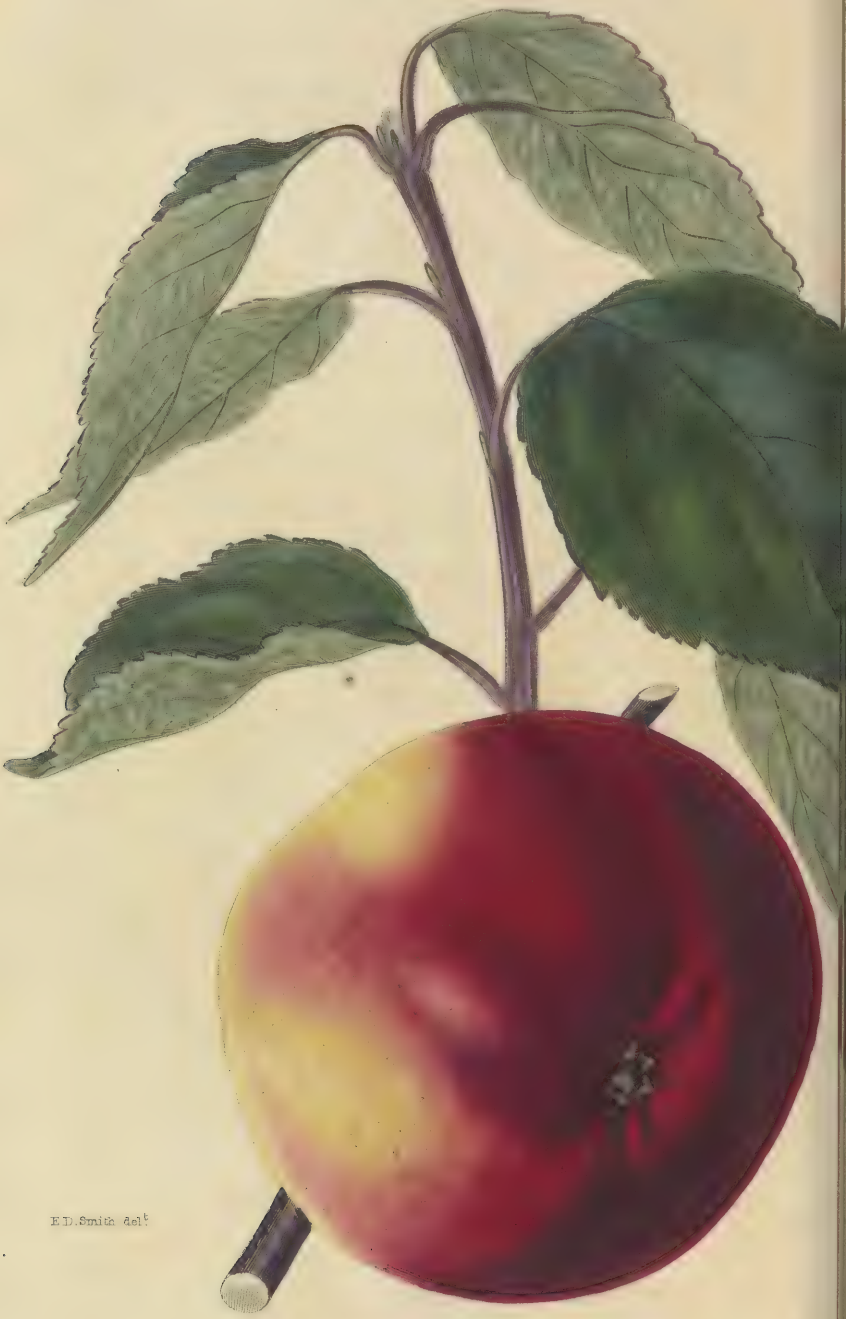
The present subject is a very desirable plant, and no flower-garden ought to be without it. It is of easy propagation, requiring no other care than that of the most hardy annual.

The genus *Œnothera* is, we suspect, capable of being much improved, if the production of hybrids can be so considered. The parts of fructification are in general complete; for the most part they readily produce seeds, and the genera *Gaura* and *Epilobium,* to which they are nearly allied, produce scarlet, red, and pink colours, which, if blended with the yellows and whites of the former, might produce varieties exceedingly interesting and beautiful. The operation of impregnation should be performed as soon as the flowers are in a fit state, and this is frequently the case before the expansion of the petals, which, in some species of this genus is highly curious. The petals of *O. biennis,* for example, "are held together at the top by the hooks at the end of the calyx, the segments of which first separate at the bottom, and discover the corolla a long time before it acquires sufficient expansive force to unhook the calyx at the top. After this has been accomplished it expands very fast, almost instantaneously, to a certain point, and then makes a stop, taking a little time to spread out quite flat; it may be half an hour from the first bursting of the calyx at the bottom to the final expansion of the corolla, which commonly becomes flaccid in the course of the next day, but that depends in some degree on the heat or coolness of the weather."

Some of the species of this genus have long been known by the name of the evening primrose, a name which they have obtained from the circumstance of their flowering in the evening: this peculiarity however does not apply to all the family, many of them expanding their flowers in the morning.

The evening-flowering species are highly interesting, as they enliven the flower-garden at those hours, when many of Flora's purest gems are, as it were, gone to sleep.

Our drawing was taken from plants in the collection of Mr. Colville, King's Road.



E.D. Smith del.t

London, Published by Thomas Kelly, 17, Paternoster Row, 1830.

XVI.

RED ASTRACAN APPLE.

Figured in Pomological Mag. No. 123.

This beautiful summer apple was introduced, together with the White Astracan, which latter has also been figured in the Pomological Magazine, by W. Atkinson, Esq., and cultivated most successfully in his garden at Grove End. The following account of this apple we have just received, for which we are indebted to Mr. Atkinson, and which we beg to acknowledge; and as it conveys a very accurate description of this fruit we take the liberty of quoting it.

"The Red and White Astracan Apple trees were sent to me by a friend from Stockholm, in Sweden, about the year 1816. I was informed at the time that they had been received there from Petersburgh, and had been brought there from Astracan.

"The Red Astracan is a healthy, free, and strong growing tree, and has not suffered from any disease in my garden. It is a tolerably good bearer, and has in no season failed in producing fruit. It blossoms very early, and ripens its fruit about the second or third week in August. It is a good eating apple, and bakes well, but will not keep longer than a week or ten days after being ripe. Its great merit is the beauty of the fruit, from the rich bloom which is beautifully dispersed over its fine waxy surface, and which, at a little distance, has some resemblance to a well-ripened peach. The tree makes rather a round or compact head. I consider the Red Astracan more as a tree for curiosity or ornament, than for the value of its fruit, on account of its not keeping; but when in perfection, the apple makes a beautiful show on the table."

In addition, we may add, that it is rather above the middle size, and of a somewhat conical shape; the leaves are rather downy on their under surface, and slightly but regularly crenulated or notched round the margin.

In private gardens of the first class one tree is amply sufficient, and in those that are small a graft or two upon any other early apple may be deemed plenty. As a marketable fruit, it certainly merits attention, its great beauty ranking it as a dessert apple, and its property of boiling or baking renders it important in the kitchen.

General Observations.—Having in No. X. endeavoured briefly to show that the various species of aphides which attack the apple tree

are only in a state of active existence during the spring, summer, and autumn months, we therefore conclude that it is only during those seasons that their destruction should be attempted. It would be of little use here to enumerate all the projected remedies offered for this purpose. The most efficacious we have practised is syringing the trees with a powerful garden syringe, particularly directing the force against the under surface of the leaves. Pure water, if used upon the first appearance of the insects, in many cases has been found sufficient, and may probably act by simply washing them off, many of which may be destroyed by falling; the remainder, by having the ground slightly dug under the trees, will be totally destroyed. When they have been allowed to become older, and consequently more numerous, they may be destroyed by the use of lime-water, or tobacco-juice, lime-water, and sulphur mixed; and lastly by the use of Scotch snuff, or finely pulverized caustic lime-dust, applied by dusting them over the trees with a simple puff, such as is used by hair-dressers, or more conveniently by the lime-dredger, recommended in the Hort. Transactions. Lime-water for this purpose may be made by slaking a bushel of caustic lime in a hogshead, applying only sufficient water at first to make the lime fall, then filling the vessel, and allowing it to stand to settle or become pure. This water should be then drawn off into another vessel, to which should be added four pounds of sulphur and four pounds of roll tobacco: when this has stood for a day or two it is then fit for use. In all cases the liquid should be applied with great force, and particular attention paid that it may reach the most protected branches and under sides of the leaves, as it is on them that the aphides chiefly establish themselves. On wall trees, or small trees, and on a limited scale, when they can be conveniently covered with canvas or a similar covering, the fumigation of tobacco will be found equally efficacious, and may be considered sufficiently baneful to destroy all the species of this genus with which all sorts of fruit trees are infested; the *Aphis Laniger*, noticed in No. XI., and black aphis, which will be noticed in an early number, only excepted.

Our drawing was taken from a fruit grown in the garden of W. Atkinson, Esq., at Grove End.

In our last page we made some remarks upon the light and shade of an object, which we now purpose to continue, it being, as we before observed, a very necessary part of the art for the pupil to attend to, and one which we are sorry to observe is so much neglected in the teaching of flower-painting: we allude to the introducing of black and heavy shadows, which must tend to destroy the delicacy of a flower or any other part of a plant, merely, as we suppose, to give a striking effect, but which, in our judgment, we consider to be indicative of a very bad taste. For if we attempt to make any branch of the art our study, we surely ought to endeavour to approach the original as nearly as possible; then, if the pupil be not able to give at the first or second attempt that pleasing look to his work which the subject he is copying may possess, yet by perseverance he will be able to accomplish it, and therefore he ought not to make any addition, by giving a forced degree of colouring or unnatural shade, to cover his defects, but he should persevere until he has overcome his difficulties, and then the truth that his drawings will bear to nature will well repay him for his trouble, in possessing an intrinsic value in themselves, and rendering them fit to undergo the strictest scrutiny.

The pupil will be careful in the position of the light and shade of the round objects; for instance, if it be the stalk or branch of a flower, he should be particular that the shade be placed upon one side of the stalk, and occupying about one-third of the same, but not to allow it to extend quite to the edge, for, being round, it will receive a light from behind, causing the outline on that side of the shoot which is in shade to appear lighter than the opposite. The strength or depth of the shade will be governed by the colour of the object, or the gloss that it may possess; for if it has a downy appearance, the shade will be soft, but if of a smooth shiny texture, then the shade will not extend over so much of the stalk, and will be of a darker and more sudden appearance on its margin. We can refer the pupil to some of those subjects that have been given in this work as an example of what we advance; or, indeed, let him try the effect of a round object treated in the two different ways, that is, with the light outline or margin to the shade, and the reverse, he will then be able to distinguish which has the roundest look. We particularly impress this upon the mind of the student, as it is of so much consequence, and it being an error which is so often run into, namely,—the making an outline of an object so dark that it looks as if cut out of some dark object and laid upon a white ground.

The pupil will observe, while looking at nature, that the shadow from an object is always darker than the substance which may be the cause of it; this difference is owing to the light which is reflected from surrounding objects upon that part of the substance which is in shade.

He will also observe the difference of the shadows upon a light and sunny day, and one that is gloomy: in the one they appear much darker, and more sudden in their terminations, by which life and brilliancy are given to the effect; in the other case, they will be more general and undefined, and altogether lighter.

ESCHSCHOLTZIA CALIFORNICA.

The first tint for the leaves will be produced by a light tint of green made with Prussian blue and gamboge, and shade with gamboge and indigo, making one half of the stalk a yellow green, that it may have a transparent look, and lay on the last tints with the first-mentioned green. For the flowers, first lay on the grey made with the three colours mentioned in a former subject; when this tint is quite dry, lay over a tint of gamboge, then pass over parts of the flowers with a shade of chrome; when this is done a little more grey will be required; for the centre, a little red-lead, taking care to keep the flowers as clean as possible, by not laying on too much shade; the stamens may be made out with the grey.

ŒNOTHERA LINDLEYII.

For the green mix up first a tint of indigo and gamboge, and with this colour lay on the shade; when done, lay over a wash of Prussian blue and gamboge. For the stalks, first lay on a tint of lake to form a red tinge, and when dry lay over a yellow green. For the flowers, first lay on the powder carmine mixed with the hartshorn, afterwards lay over the azure blue, and shade with the two mixed together; for the spots upon the petals, carmine alone, and finish up the flowers with the purple of azure blue and carmine, using a little gum-water to give a certain degree of brilliancy. The whole of the colours should be laid on as thinly as possible, keeping the lights strong, that the flowers may have that appearance which they possess in nature. For the stamens, touch them in with a little grey, and afterwards a little yellow.

RED ASTRACAN APPLE.

First lay on a tint of green, gamboge and Prussian blue, and shade with gamboge and indigo mixed together; the back of the leaves of the same green, only adding a little lake to give a grey look; veins and teeth lake; stalk lake and Prussian blue, shaded with the same, adding a little sepia to the colour. Fruit, first tint gamboge, then lay on the shade with a mixture of grey; the red colours will be carmine, laying it on in small dots on the light side, and if it should require to be more scarlet, lay on a little more gamboge, and darken the shade with a little purple; the light dots of the fruit king's yellow.

Grove End Sweet Water Grape. XVI

E.D.Smith delt Watts sculp

London. Published by Thomas Kelly 17 Paternoster Row 1830.

XVII.

GROVE-END SWEET-WATER GRAPE.

Described in Practical Gardener, Vol. I. p. 496.

This excellent early grape was introduced into this country by W. Atkinson, Esq. under the following circumstances. Being desirous of obtaining a collection of the best vines for his vineries at Grove End, he applied to his various correspondents, both in this country and on the continent. From M. Van Eden of Haerlem, (a name so associated with florists' flowers as to be well known throughout Europe,) he received a plant of this variety about eleven or twelve years ago, but without any other name, than that it was the earliest sweet-water in the Netherlands. It was successfully cultivated in the garden at Grove-End, and from it sent to the garden of the Horticultural Society, from both of which it was widely distributed throughout the country, under the name of the Grove-End Sweet-Water, a name by which it is now well known.

The bunches are rather smaller than those of the Royal Muscadine, and shoulder more than any of the other sweet-waters. The berries are somewhat oval in shape, of a transparent green when forced in the house; and the seeds, in consequence of the extreme thinness of the skin, are distinctly seen through the pulp. It is one of the earliest grapes in cultivation, and is probably, with the Royal or common Muscadine, the only grape that is worthy of cultivation on the open walls. Wine of a superior quality is yearly made from the fruit of this vine at Grove-End, which, from local circumstances, is by no means the most favourable situation for the ripening of this fruit. Setting aside the question of the policy of cultivating the vine for the purpose of wine-making, in a commercial point of view, we would say that, in ordinary situations, those that are fond of this beverage may be satisfied that the above varieties of grapes will, with proper management, afford excellent wine, and that at a trifling expence.

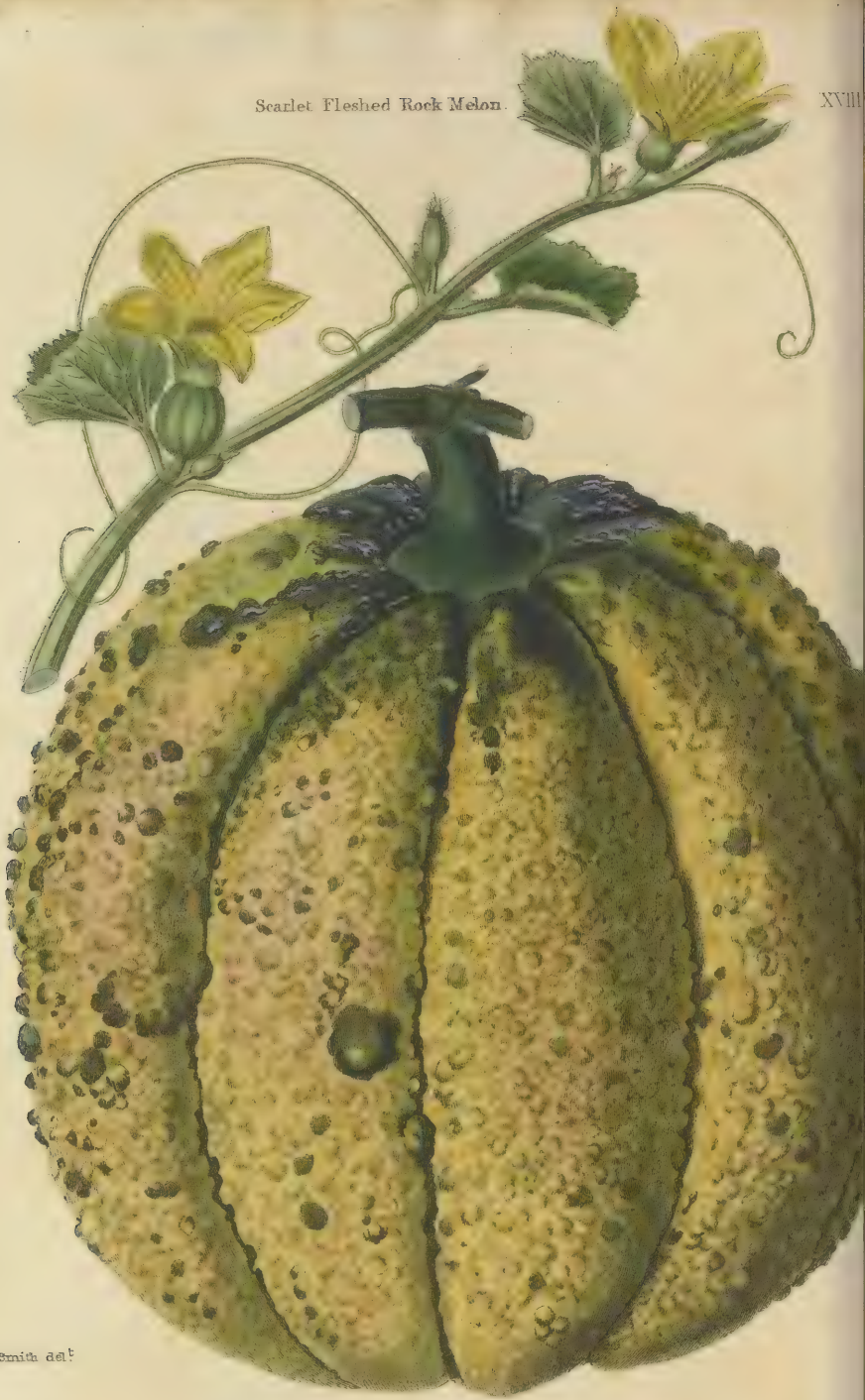
In the cultivation of the vine there is, perhaps, no part of more importance, and at the same time less attended to, than that of their propagation. Although the vine is readily increased by seeds, cuttings, layers, and grafting, it nevertheless follows that one of these methods may be better than another. Seeds are resorted to when new or improved varieties are desired; grafting and inarching when new or approved sorts are to be substituted or added to plants already established;

layers can only be successfully rooted when the operation is performed under glass, and should be entirely abandoned with such as are grown in the open air; this, nevertheless, is the prevailing practice. Cuttings of well-ripened wood, upon a moderate bottom heat, are much preferable to them, and plants originated from cuttings of a single eye are decidedly the best of all. This mode was, we believe, first practised by a clergyman of the name of Mitchell, and by him communicated to Speechly, about the year 1770, whose reasoning in favour of the practice is as follows:—"It is allowed that cuttings are generally preferable to layers, and that plants of any sort raised from small cuttings commonly make the best plants. The new plant is injured in proportion as it partakes too abundantly of its original mother plant: hence the less the bulk of the matter that forms the new plant, the better; for plants raised from seed have the smallest beginning of any, and are preferable both to layers and cuttings."

To produce plants by this method the best ripened shoots ought to be selected, and the best formed buds or eyes cut off, leaving about half an inch of the wood on each side of them. These eyes should be planted about half an inch deep in small pots, one pot to each eye, and plunged into a brisk bottom heat, in a close melon or cucumber frame. The bud will soon push out a shoot, which, as it extends in length, should be shifted into a pot of larger size, and attended to with water, air, and a uniform temperature until the plants become so large as to require more room. They may then be removed to the front of a pine-house, or early vinery, and trained either to a trellis or to other supports more convenient. Plants so managed will often shoot ten or even twenty feet the first season, and will be found fully furnished with roots to warrant their being planted out permanently the following season.

Our drawing was taken in the garden of W. Atkinson, Esq., at Grove-End.

Scarlet Fleshed Rock Melon. XVIII



E.D. Smith del.t

London, Published by Thomas Kelly, 17, Paternoster Row 1830.

XVIII.

SCARLET-FLESHED ROCK MELON *var.*

It is difficult to say whether the small green-fleshed Cantaloupe Melon, figured in No. I. in this work, or the present variety, has the greatest claim on our attention; certainly those who have tasted them will admit that either is little inferior to the pine in richness, sweetness, and high flavour.

When well grown, this melon only attains a small size, and weighs from two to three pounds, and varies in size from four to six inches in diameter, sometimes, however, attaining a greater weight and size, but seldom in such cases increasing in flavour. Indeed it may be laid down as a general rule, from which there are very few exceptions, that the smallest melons are the best flavoured.

In the first stages of growth, the outward skin of this variety is of a dark greenish colour and perfectly smooth, becoming, as it advances in size, of a greyish colour, and thickly studded with small protuberances, which are of a much darker colour than the skin of the intermediate spaces; when approaching maturity, the colour changes to a silvery greyish green, becoming yellowish in ripening. The internal colour, or flesh, is light scarlet. It is juicy when cut, almost solid, the vacuity for the seeds being very small. The flesh is exceedingly sweet and high flavoured, but not very thick. The skin thick, and of a bitterish taste. The plant can only be considered as rather delicate, and liable to damp off if too much water be unseasonably applied. It seldom produces a secondary crop, the vines generally dying when the fruit is ripe. Throughout its culture, the vines should be kept thin, and the leaves carefully handled, for, if much broken, canker and disease will follow, and the plant, if not entirely destroyed, will be so weakened as to ripen its fruit prematurely.

It is seldom that this variety emits that perfume which indicates maturity in melons in general; but as soon as the foot-stalk begins to crack at its base, it should be cut immediately. Melons should be always cut before they have acquired the last degree of maturity, and allowed to ripen in the fruit-room a day or two, according to the heat of the season, temperature of the apartment, &c.

The following translation by Phillips, in his '*History of Cultivated Fruits,*' from the work of *Mons. Cadet de Vaux,* is excellent, and may not be uninteresting. "When melons are not ripe, or unequally so, the portion of flesh next to the stalk is of an intolerable bitterness, a bitter-

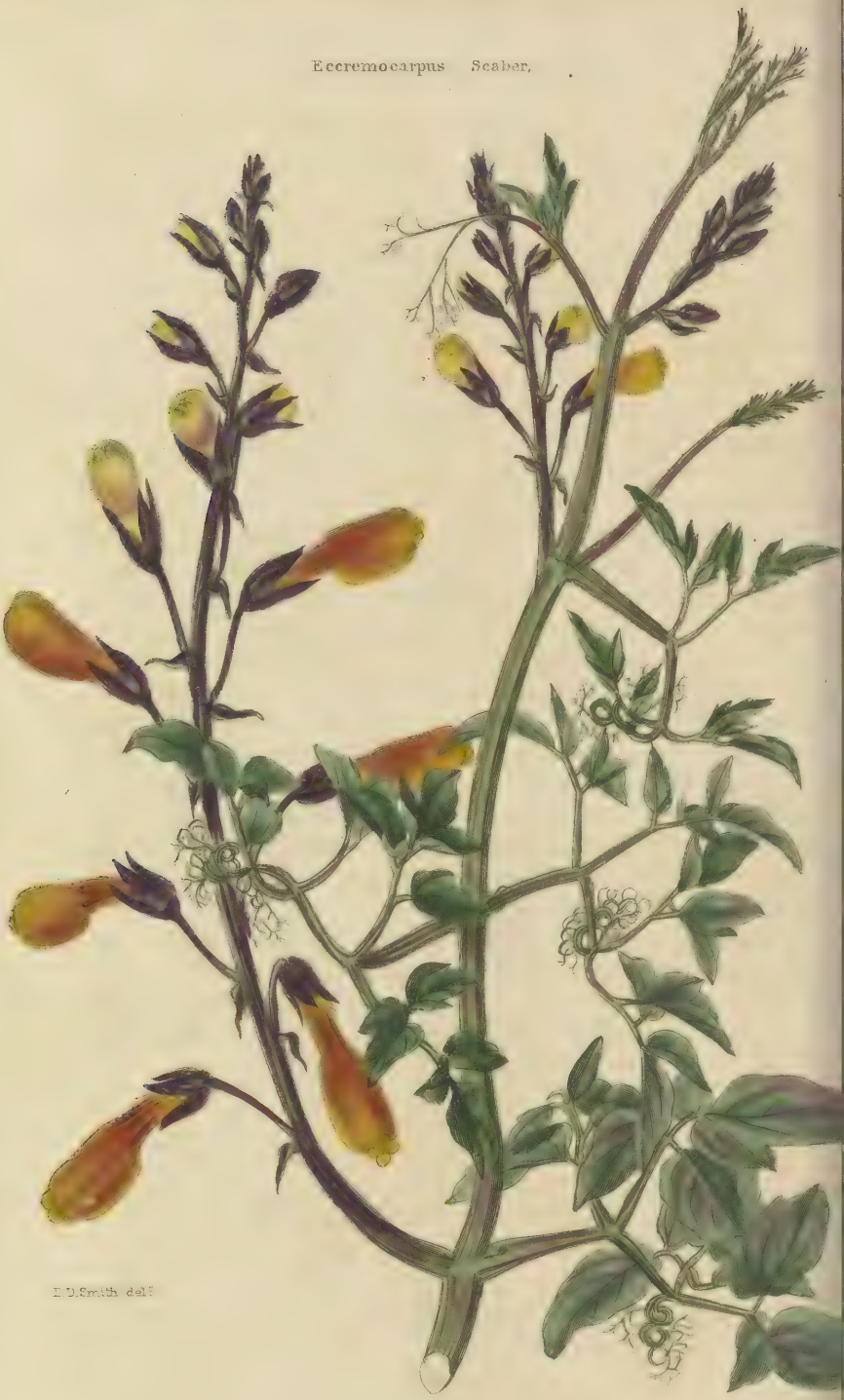
ness destined to be converted into a sugared principle; but break it off from the branch, and let it acquire a secondary maturity, partly on the hot-bed and partly in the hot-house, or, if the weather be very hot, in a cool place, when it will become excellent, whilst, if ripened on the vine, it would not be half so valuable. When the fruit has acquired all its perfume, it is savory, melting, and juicy, because its acid and its water are not yet perfectly combined; the digestion will be easier, and nothing is to be feared from a slight excess that we may indulge in with fruits thus perfectioned by time, by a mild fermentation, which is only the intestine movement which the frequent alternative of temperature excites: thus sensuality is here found, which is not very common, perfectly agreeing with health."

In No. I. of this work we have noticed the introduction of this fruit into Europe. Its introduction into England is not so satisfactorily ascertained. It appears, however, to have been cultivated here since the middle of the sixteenth century, but how much earlier we have no certain account. It is conjectured to have been brought here from Italy and France, by the ecclesiastics, but great confusion seems to exist as to whether the fruit alluded to by *Gough*, and other historians, as being cultivated before the wars of York and Lancaster, be really the melon of modern cultivators or the pumpkin, which we are satisfied was before that period held in some estimation by the people of this country.

The French, Spanish, Egyptian, and more particularly the Persian Melons, are highly spoken of, but such of these as have come under our observation are very inferior to some of the best sorts in common cultivation. The melon is used as a dessert fruit in England, and is eaten either alone or with sugar, salt, pepper, or ginger. In France melons are chiefly used as a sauce for boiled meats, and in hot climates they are eaten to allay thirst.

Our drawing was taken in the garden at Claremont.

Eccremocarpus Scaber.



I. D. Smith del.

London, Published by Thomas Kelly, 17 Paternoster Row 1830.

No. 17.

ECCREMOCÁRPUS SCÀBER.

ROUGH ECCREMOCÁRPUS.

Class 14.
DIDYNA'MIA.

Order 2.
ANGIOSPERMA.

Natural Order.
SCROPHULARÍNEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
South America.	1825.	Bot. Cabinet, 1412.	Flower Garden and Frame.	Garden Mould.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
July to Oct.	6 to 20 Feet.	Calampelis Scabra.	Seeds and Cuttings.	Half Shrubby Perennial.

GENERIC CHARACTER.—Calyx, short, green, bell-shaped. Corolla, pale orange, tubular toward the base, swelling out toward the middle, terminating in fine acute lobes. Capsuls, large, one-celled, two-valved. Flowers, in racems in a seccund form.

SPECIFIC CHARACTER.—Stem, climbing, supporting itself by many tendrils, which are much branched, forked, and terminating in little hooks, by which it attaches itself to whatever is within its reach. Leaves, opposite, producing two pair of pinnated leaflets. Leaflets, alternate, sometimes toothed and sometimes entire, shining, thickly clothed with short glandular hairs.

The GENERIC NAME, ECCREMOCA'RPUS, is derived from the Greek, (*ekkremes,* pendulous, *karpos,* fruit,) from its pendulous fruit or seed-vessels.

The SPECIFIC NAME, SCA'BER, from *scaber,* rough, rugged, uneven.

GENERAL OBSERVATIONS.—This is a singular and rather handsome plant, and although, as yet, little known out of collections, is still deserving of a place in every garden. It is a rapid growing climbing plant, which, in its native country, is found running over the hedges and bushes, and flowering nearly the whole year. By cultivation, it may probably be brought to flower earlier in the season, which will enhance its

merits. It is not, strictly speaking, hardy, although plants of it have withstood a considerable degree of cold; and, in winters less severe than the last, we have no doubt of its remaining out with safety. It is, however, so readily increased, both by seeds and cuttings, that renders its hardiness a matter of less regret. The seeds, which ripen freely in autumn, may be immediately sown, and the young plants protected in the green-house during winter, and slightly excited in spring, by which means strong plants will be procured before the season of planting out arrives. In the flower-garden it ought to be planted against a wall or trellis, or, probably with better effect, allowed to ramble over the rugged stump of an old tree, or on a pyramid formed with rugged branches of trees placed on purpose for its support, and additional branches added as it extends its ramifications. Natural and rough branches are the best of all supports to plants of climbing habits; and in flower-gardens, where nature is attempted to be imitated or assisted, will be much more in character than baskets and wire-work supporters, constructed on the most expensive scale, and formed with the utmost mathematical precision.

The seeds of this beautiful creeper were introduced into this country from Chili by Francis Place, Esq. in 1825, and presented by him to the Horticultural Society.

It is propagated by seeds, which are produced in tolerable abundance, but which do not sometimes vegetate until the second season after sowing. Cuttings of both the young and year-old wood root freely.

Mr. David Don, a botanist of great merit, has separated this plant from the genus *Eccremocárpus,* under which it was placed by Ruiz and Pavon and other botanists, and assigned it the name of *Calampelis,* a name of Greek derivation, signifying a fair or beautiful vine.

Our drawing was taken from a plant in the nursery of Mr. Dennis, Grosvenor Row, Chelsea, celebrated for its fine collections of *Pelargòniums, Dáhlias,* &c.

CONSISTENTLY with our remarks in a former page, that the shadows would be affected according to the clearness of the day, so we may now proceed to observe, that many of the colours of flowers undergo great alterations, and that there are some of a purple tint that ought to be painted only in the morning, as towards evening the colour will appear quite differently, looking much bluer than they really are; the several kinds of Phlox in particular will be observed to change in this way; therefore the pupil should paint these flowers in the early part of the day, not keeping them in the house too long, as that will always effect a change in them. In laying on the shadow upon any object that is not flat, the pupil should be particular that the undulation, or uneven surface of it, be represented; for as the surface upon which the shadow is, approaches the object which causes it, so will the shadow be of less extent and darker in proportion; and those parts which in their bends become more distinct, the shadow will be lighter and of greater extent, gradually enlarging according to the abruptness of the turns. By attending to this, the pupil will not destroy the transparency or unevenness of the petal; the greatest attention should also be paid to the form of the shadow, in order that it may be understood from what object it proceeds. The pupil will also remark, that in a group of flowers, the shadows will or ought to appear much stronger on the side on which the light falls, and that upon the other they will be much lighter, or will appear not so distinct, owing to the shade which ought to be cast over nearly all the objects; and if it be intended to make the composition appear very round, then there will be no decided shadows upon the outer objects, but a general shade thrown over, by which means every part will be brought into subjection, and made to recede; and also if there be a back-ground to the group, and it be a little landscape, then it will receive no shadow from the subject; but if of a simple surface, then it will receive a shadow, according to the size of the object, and the extent or distance that it may be from such object.

Having before remarked that the shadows should be as warm as possible upon the flowers, the pupil will have a greater opportunity of doing so in this instance, as he will not be so confined to the colour of the objects. We have before observed, that the outline would be affected by the kind of back-ground, so will that side of the group that is in shade be blended in with the shadow upon the back-ground, and in many cases it will look well to be quite obscured in the depth of colour, by which means greater brilliancy will be given to the side on which the light is directed; the flowers having a much lighter look, the greater the contrast will be, provided the colour of the back-ground be not too bright, so as to kill the flowers, or to attract the eye from them; indeed

the tint of the back-ground should be governed by the description of flowers which form the composition.

GROVE-END SWEET-WATER GRAPE.

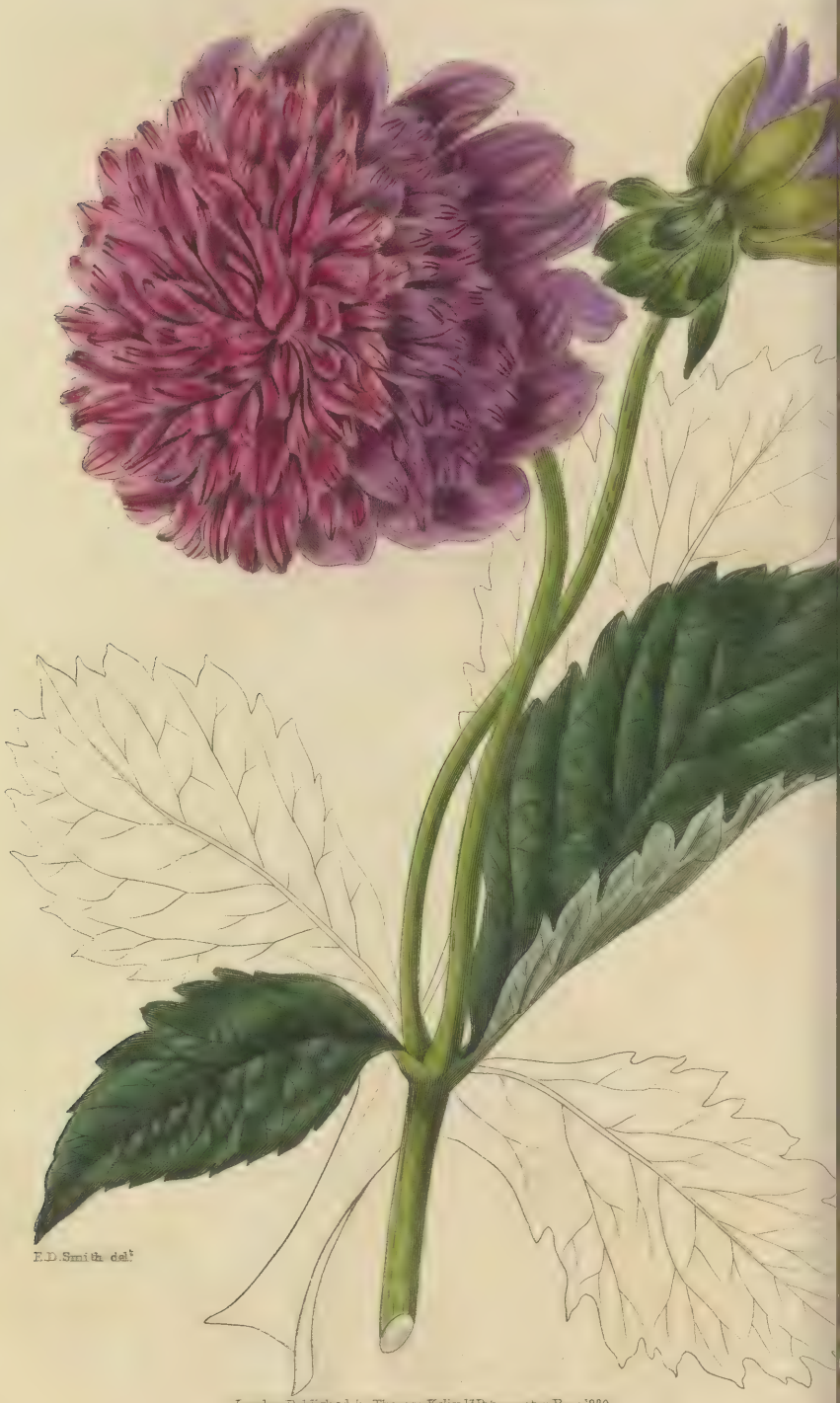
The first tint of green for the leaf should be gamboge and Prussian blue, and shade with the same; the veins may be laid on with the same tint; for the brown touches, burnt terra sienna, and in parts Indian yellow. Stalk, the same brown with sepia, and shade with sepia. Fruit, first lay on a light tint of blue over the light, then a tint of yellow green, gamboge and Prussian blue; for those parts of the grape that have a transparent look and the seed is seen use gamboge, and finish up the fruit with the above-mentioned colours, taking care to make them look as transparent as possible.

SCARLET-FLESHED ROCK MELON.

The greens, first a light tint of gamboge and Prussian blue, and shade with the same; the veins may be put on with a green of Indian yellow and Prussian blue. Flowers, first lay on the grey, when dry lay over the gamboge, and finish with chrome. Fruit, first grey in round sharp touches, repeating it several times until some depth of shade be given, when dry lay over Indian yellow, then some green in parts of indigo and gamboge, and finish up the fruit with repeating the different colours mentioned before, and the addition of chrome in parts.

ECCREMOCARPUS SCABER.

First tint of green for the leaves, Prussian blue and gamboge, and shade with Indian yellow and the same blue; the stalk will be much yellower of the same green, laying on a little lake in parts to give a red tinge. The flowers, first lay on a tint of grey for the shade, then the carmine in those parts that are tinged with red, afterwards gamboge all over, and shaded with chrome, after which some more carmine with gum-water, to give brilliancy and cause it to work pleasant.



F.D. Smith del.

London, Published by Thomas Kelly, 17 Paternoster Row 1830.

No. 18.

DÁHLIA VARIABILIS, *var.* BELLA DONNA.

PAINTED LADY ANEMONE-FLOWERED DAHLIA.

Class 19. SYNGENESIA.

Order 2. SUPERFLUA.

Natural Order.

COMPÓSITÆ.

Native Country.	*Originated*	*Figured in*	*Garden Habit.*	*Soil.*
Mexico.		Sweet's British Flower Garden.	Flower Garden.	Light sandy Soil.
Time of Flowering.	*Height.*	*Synonyme.*	*Mode of Propagat.*	*Duration.*
July to Nov.	1 to 2 Feet.	Georgìna Variabilis.	Seeds & Roots.	Perennial.

GENERIC CHARACTER.—Receptacle abounding with chaffy scales. Pappus, none. Involucre, double; outer many-leaved, inner one-leaved, eight-parted.

SPECIFIC CHARACTER.—The section to which this variety belongs is sufficiently characterised by the flowers being all more or less filled with small rays in the centre, resembling the flowers of the double anemone.

The GENERIC NAME, DAHLIA (*now* GEORGI'NA), was given by Cavanilles, in honour of Andrew Dahl, a Swedish botanist, and pupil of Linnæus; and, much about the same time, Willdenow also named it in honour of Dr. Georgi, of Petersburg, without the circumstances being known to each other. According to botanical etiquette, the name of Cavanilles being first given, it was universally applied in Britain and in some parts of the continent; however, the majority of foreign botanists maintained the name of *Georgìna*, and which is now recently adopted in this country. We have, however, retained the name of Dáhlia, and given that of Georgìna as a synonym; not that we object to the latter, but that the former is more universally known.

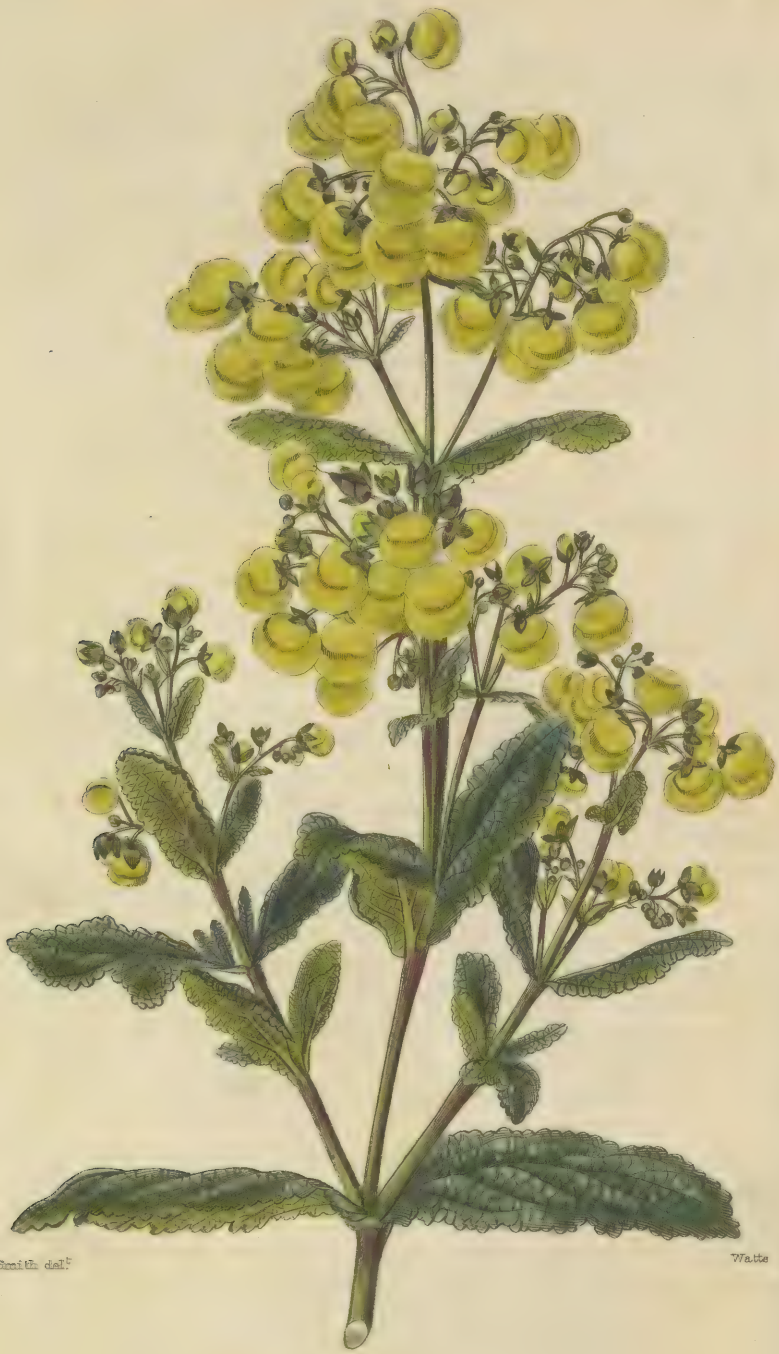
GENERAL OBSERVATIONS.—The first Dáhlias introduced into this country were soon afterwards lost, their culture not being properly understood. In 1804, Lady Holland sent home from Spain seeds of Dáhlias, which were raised in her ladyship's garden, at Holland House, near Kensington, by her gardener, Buonaiuti; and we learn also, by a letter from

him to the late Dr. Dickson, that seeds of dahlias were also received by him directly from Cavanilles about the same time. From the plants originated at Holland House, the Hammersmith Nursery was first supplied with this plant, which, however, continued rare in the country till after the peace of 1814, when they were imported from France. It would appear that the French gardeners had made little progress in their culture, for we recollect well of the first importation of them, after that date, by Messrs. Lee and Kennedy; and from the great interest those gentlemen were well known to have with the horticulturists of France, even during the war, we might naturally suppose that they would have received the best varieties then in existence. It is to the superior skill and industry of the British gardener that we are indebted for the existence of the splendid and numerous varieties of this genus.

They are found indigenous in sandy meadows in Mexico, and with us they succeed best when planted in light sandy soils. Their general culture resembles very much that of the potato. See *Pract. Gard.* p. 884.

Few single-flowering dáhlias are now cultivated, semi-double and double flowers being preferred, and of those such as are of dwarf growth are most esteemed. The appearance of the Anemone-flowered varieties, one of which is represented in our present figure, has added quite a new feature to the appearance of this genus, and is supposed to have been originated by impregnating the flowers of the common double varieties with those of *D. astrantiæflora,* and which is the most reasonable conjecture that has been offered relative to the production of these curious varieties. They were raised and first brought into notice by Mr. Drummond, of Cork, and are now rapidly spreading into every garden of note in the kingdom.

Our drawing was taken from a plant in the nursery of Mr. Lee, at Hammersmith, who possesses one of the most complete collections of this section, having purchased the whole of Mr. Drummond's stock. They are, however, to be purchased in most nurseries of repute, and vary in price from 2*s.* 6*d.* to 20*s.* per plant. The proper season for procuring them is during the months of February, March, and April.



F.D.Smith. del.t

Watts sculp.t

London. Published by Thomas Kelly 17 Paternoster Row 1830.

No. 19.

CALCEOLÁRIA RUGÓSA.

RUGOSE-LEAVED SLIPPERWORT.

Class 2. DIÁNDRIA.

Order 1. MONOGYNIA.

Natural Order.

SCROPHULARÍNEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Chili.	1822.	Hooker's Exotic Flora.	Green-house.	Peat & Loam.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
Most of the Summer.	2 Feet.		Cuttings.	Perennial.

GENERIC CHARACTER.—Corolla, consisting of one irregular ringent or gaping petal, inflated or swollen, as if full of air. Calyx divided into four almost equal divisions. Capsuls, two-celled, two-valved.

SPECIFIC CHARACTER.—Leaves, lanciolate, very rough, with spreading teeth. Flowers, terminal, dichotomous.

The derivation of the GENERIC NAME is given in No. 2 of this work.

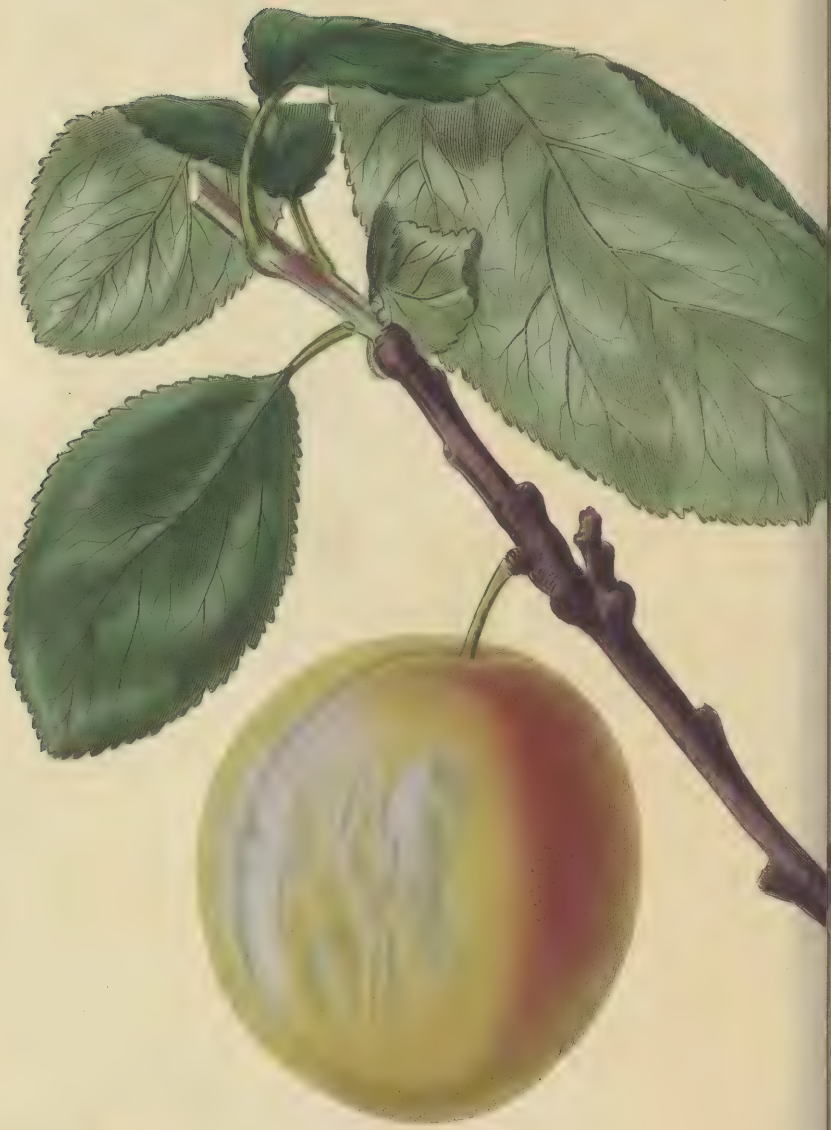
The SPECIFIC NAME, RUGOSA, is derived from *rugose*, the leaves being rough or coarsely wrinkled.

GENERAL OBSERVATIONS.—The genus Calceolária has become of late years both popular and numerous. It is not more than eight years since we could only boast of two species, whereas fourteen have been now described, and most of them figured, besides a very considerable number of varieties possessing more or less merit. Indeed, this may be said to be one of the many genera that the industry of the cultivator may multiply by impregnation into varieties without end; and however annoying such a mode of increasing varieties may be to the systematic botanist, it must be admitted that it affords much gratification to the amateur and more humble admirers of the domain of Flora. The cultivation of the genus Calceolária is by no means difficult, the greater part increasing by cuttings, planted in sand in a mild temperature; and those which do not

admit of increasing by this means, may be abundantly multiplied from seeds, which vegetate readily if sown as soon as they are ripe, and if kept over the winter will flower the following summer in great perfection.

All the genus is well adapted for planting out in the borders of the flower-garden, and under such treatment they attain a degree of luxuriance and profusion of bloom seldom attained in pots. The plants so treated may be left until destroyed by the autumnal frosts, as they seldom succeed if taken up and potted; provision should be, however, made, during August and September, to propagate, by cuttings or seeds, a stock of young plants to plant out the following summer. During winter they may be preserved in a cold pit or green-house, observing to keep them free from damp, and, if merely kept from freezing, will succeed much better than if kept in a higher temperature.

Our drawing was taken from a plant in the collection of Mr. Colville, King's Road, Chelsea.



E. D. Smith del.t

Watts sc

London, Published by Thomas Kelly, 17, Paternoster Row, 1830.

XIX.

THE WASHINGTON PLUM.

Figured in Pomological Magazine, No. 16. *Enumerated in Hort. Soc. Fruit Catalogue*, No. 270.

This very excellent plum is of North-American origin, and was introduced into this country in 1819, by Robert Barclay, Esq., of Berry Hill, Surry. In 1821 it was received by the Horticultural Society from Dr. Hosack, and in 1823 two trees of it were introduced from New York into the gardens of Sir Thos. Baring, Bart., at Stratton Park. From these collections it found its way into the principal nurseries, and is now pretty generally cultivated throughout Britain. Its merits, however, are such as to claim for it a place in every garden, as it is unquestionably one of the finest plums in existence.

In point of flavour, beauty, productiveness, and other good properties, it is not surpassed by any; and with the Green Gage, already figured in this work, Coe's Golden Drop, and Blue Imperatrice, form of themselves a selection of dessert plums sufficient for almost any garden. The former, on walls or standards, comes into use first, and is closely followed by our present subject, under similar circumstances. The Coe's Golden Drop and Blue Imperatrice come into use at a later period, and, with good management, prolong the season of plums to a much more advanced season than could have been anticipated before their appearance.

The editor of the Pomological Magazine observes,—"The origin of this variety is remarkable. The parent tree was purchased in the market of New York, some time in the end of the last century. It remained barren several years, till, during a violent thunder storm, the whole trunk was struck to the earth and destroyed. The root afterwards threw up a number of vigorous shoots, all of which were allowed to remain, and finally produced fruit. It is therefore to be presumed, that the stock of the barren kind was the parent of this."

Tree, extremely luxuriant, and apparently free from disease; hardy, and abundant bearer, either on a wall or standard: an east, west, or north aspect is found the most proper for it in the former case, and a sheltered warm situation in the latter.

Leaves, unusually large, glossy, very dark green.

Flowers, pure white and large.

YOUNG WOOD, pubescent, at first quite smooth, afterwards long-jointed, strong, pale brownish when shaded, darker when more exposed.

FRUIT, large, oval, uniform in shape and size, seldom producing small fruit. Fruit-stalk, short, strong, by which means it remains on the tree till fully ripened. Skin, yellowish green, rather yellowish on the side next the sun, sometimes mottled with reddish spots.

STONE, small, sharp at each end, curiously wrinkled all over.

FLESH, yellowish, similar to a well-ripened green-gage, parting freely from the stone, firm and juicy. Ripens about the middle of August.

Like all plums, it should be allowed to ripen well, and when even a little shrivelled is excellent. Wasps greedily attack this plum, and that often before they are ripe. We have this season protected them from these attacks by a simple and efficacious covering of wool, finely carded, and laid over each fruit so as to form a thin envelope, which, while it does not prevent the action of the sun from ripening the fruit, completely guards it against both the wasps and large black flies, which are equally destructive. If care be taken in placing the wool over each fruit, and slightly fastening it to the branch or wall, it will remain on until the fruit be gathered. Peaches have been protected in the Claremont gardens by the same means, and that which was put on them on the 1st of August, was on the 25th of September still unremoved.

Our drawing was taken in the garden of His Royal Highness Prince Leopold, at Claremont.

In our last page we treated of the difference of effect in the light and shade of a composition of flowers, we will now proceed to make some remarks on a composition of fruits. The pupil will find, in the painting of these objects, considerable difference of manner requisite in the laying on of the colours, and although we may attempt to describe to him the best manner of proceeding with the colours, &c. yet this will not be sufficient for his improvement; he must examine nature, in order to be able well to represent that peculiar surface which these subjects possess.

To compose a group of fruit, the student should be careful in the selection of the subjects, for the purpose of obtaining as great a diversity of form as possible, without over-crowding the space; and in the placing of the same, to avoid, as much as circumstances will admit, allowing them to lie in straight lines, but placing the objects so, that they shall be much higher in one part than another; and for which purpose some large fruit, such as a pine or melon, may be introduced with advantage, as they will form a good back-ground, and at the same time the rich colours which they possess will give warmth and beauty to the group, forming a good contrast to some of the other objects that may happen to be of a cold colour. The pupil should be careful that he does not place too many of the smaller kinds together, also not to allow the entire form of the objects to be seen, but to let some half obscure the others, by which means greater interest will be given. They will look well placed upon some large leaf, such as the vine or fig leaf; and if those leaves be selected which have some decayed parts upon them, they will appear more in character with the fruit, and have a more pleasing look than if of a perfect green.

The pupil will avoid placing the leaves which may be introduced into the drawing in a flat or regular position, as that would have a bad effect, but to cause some of them to bend and intermix with the fruit, as the contrast of those parts of the leaf which are of a green tint will improve the colouring of some of the objects; for instance, the apple, and some others which require a greenish shade, will be carried off by the contrast; indeed the pupil ought always to give sufficient green in his subjects, as it renders a drawing so much more pleasing, particularly when well managed; but then the pupil must practise the colouring of the leaves a great deal, and also from nature, or he will not succeed, this being rather a difficult part in drawing, and which we often see but indifferently attended to. The light and shade of a group of fruit will require different treatment to the former subjects of which we spoke: in the one, roundness of surface being the prevailing character, and in many

instances not possessing that transparency; and of course, as the objects are more opaque, the shadows will be much stronger in their tints, with, in most instances, a soft outline.

PAINTED LADY DAHLIA, NOW GEORGINA.

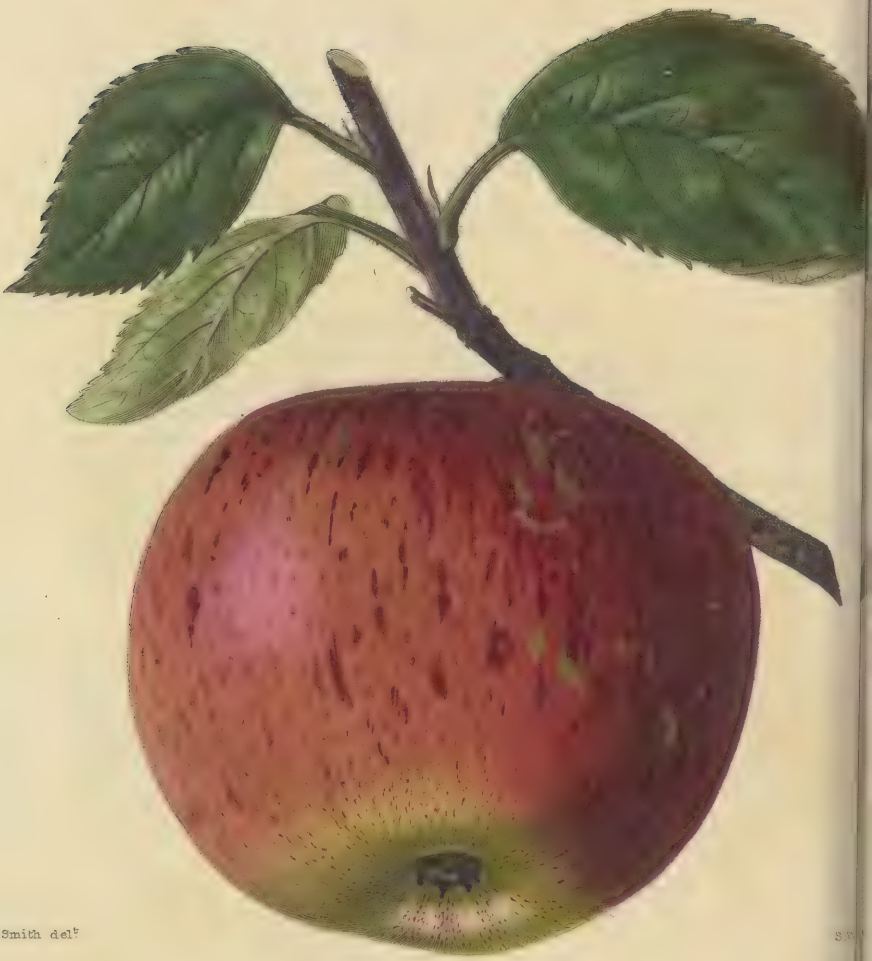
First tint to be laid over the leaves a mixture of Prussian blue and gamboge, when dry shade with indigo and gamboge; the veins the same, of a darker tint. For the stalk use the first-mentioned green, of a very yellow tint. Flowers, first a tint of carmine, when dry lay over a tint of powder carmine with hartshorn, and a little azure blue in parts of the flowers where there is any shade, after more carmine and gum-water with it, and so go on with the two colours, sometimes mixed and at other times separate, until finished.

CALCEOLARIA RUGOSA.

Greens, first a tint of Prussian blue and gamboge rather of a blue tint; when dry lay on the shades with indigo and gamboge, and finish up with the first-mentioned green, after which lay on a little yellow round the edge of the leaf; the stalk will want a little red laid on before the green, to give a brown appearance. Flowers, first lay on the grey, mixed up as before-mentioned, when dry lay over the gamboge, and afterwards a little chrome, adding gum-water to the last tints, and when advanced thus far, if it does not require more grey upon those parts which are in shade, finish by laying on a darker tint of gamboge.

THE WASHINGTON PLUM.

The green of this subject may be proceeded with in the same manner as the former subjects, with the exception of the yellow round the leaf. Fruit, first lay on a light tint of azure blue upon the light side, then lay on the shade, of a light and warm tint, afterwards a light tint of gamboge over part of it, then a little very light green touched on very delicately; when this is done lay on a light tint of carmine, and finish up the fruit, in light and delicate touches, with the different colours mentioned; for the stalk, use sepia and a little lake, and shade with sepia alone.



E.D. Smith del.t

S.W.

London. Published by Thomas Kelly, 17, Paternoster Row 1830.

XX.

THE NONSUCH APPLE.

Described in Forsyth's Treatise, 4th Edit. p. 102; *Ency. of Gardening*, p. 694; *Practical Gardener*, p. 458. *Enumerated in Hort. Soc. Fruit Catalogue.*

The origin of this excellent apple is, like that of many others, now lost in obscurity. It may, however, be presumed that it is of ancient date, as we have often seen trees of it apparently of a great age. The derivation of the name is also very undetermined; some asserting it to be from its great merits, while others ascribe it to the supposition of its having been an inmate of the once celebrated gardens of Nonsuch, in Surrey.

TREE, healthy in most situations, making always very slender shoots. Leaves, rather small, slightly pubescent.

FRUIT, about the middle size, roundish, much compressed at both ends, particularly towards the stalk, which is deeply inserted. Stalk, very slender. Yellowish-green next the shade, and of a mottled or striped reddish colour next the sun.

Ripens in September, and keeps till the middle or end of November. Flesh, very white, firm, abounding, while not over ripe, with an agreeable sub-acid taste, which sufficiently distinguishes it from every other apple. It is an excellent bearer, seldom failing to produce abundant crops. It is fitted either for standards or espaliers, and in unfavourable situations worthy of a wall. In Scotland it is often so planted, and, under such circumstances, is amongst Scotch wall-apples what the *true Newtown Pippin* is in more favourable climates. One tree, however, may be enough in any garden, so treated, on account of its not being, when grown against walls, capable of being long kept, which is a singular circumstance, and appears to strengthen the opinion that most apples and pears ripened on standards keep longer than the same varieties ripened against walls. In the latter case, however, they seldom attain so large a size, and are, for the most part, less richly coloured. The process of ripening on wall-trees may be carried on too rapidly, or probably too far, or, in other words, the fruit may be too much ripened;—a consideration of much consequence to the gardener in planting fruit-trees, as so very much depends upon their proper distribution on walls, espaliers, or standards. For this species of arrangement, no precise rule can be laid down, as soil, situation, and climate, have so obvious an effect. Neither do these fruits in all seasons ripen alike; and, consequently, their keeping is equally uncertain. Warm summers and dry autumns are the most favourable for the maturation of these fruits, and in such, for the most part, they may be ex-

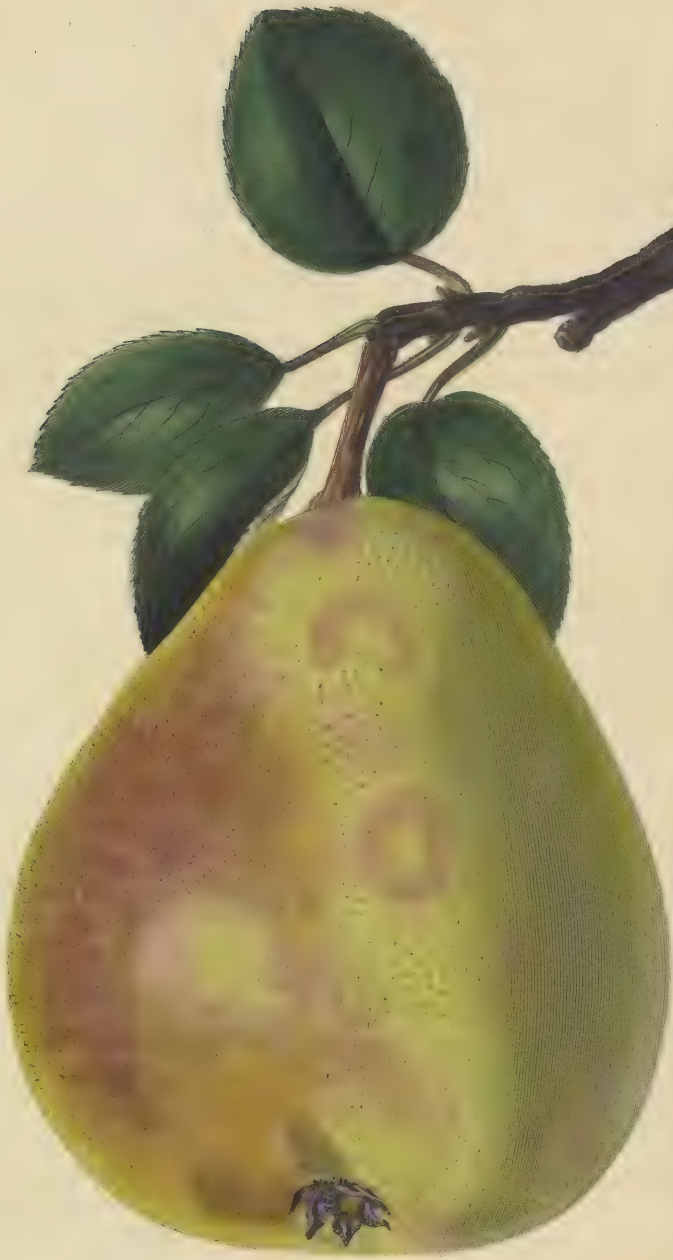
pected to keep well; whereas, in cold summers and wet autumns, the reverse may be uniformly expected. Cold and warm situations, and strong and light soils, have, in general, a very similar effect. Thus we find the same varieties of apples and pears produced in particular gardens to be very different in merit, and their keeping in like manner various.

The variety which forms our present subject has been described by writers on fruits as extremely liable to canker. This we conclude must be owing more to soil and accidental circumstances (two evident causes of that disease) than to natural degeneracy, as we have for many years had this variety, as it were, under our eye, and have never even observed it subject to that malady more than other varieties which are in general acknowledged to be free from it. As a proof of this assertion, the tree from which the drawing of our fruit was made is apparently above fifty years old, and is not at all diseased, although growing in a very shaded slip of ground, in a poor light soil upon a yellow sandy sub-soil.

As has been already observed, we are satisfied that the two primary causes of canker in any tree proceeds from accidental or designed wounds, or from the uncongenial nature of the soil; such as breaking the branches, destroying the bark, or even bruising it. Injudicious pruning, particularly in making amputations in such a manner as to prevent the bark from covering the wound; or by using a saw or blunt instrument, and thereby leaving a rough or uneven wound, which will admit of moisture finding its way into the wood. Thus decay begins, and if not attended to in the first instance, speedily, from one blotch or wound, infects the whole tree.

The majority of garden soils are capable of maintaining the apple tree in tolerable health; but it is when the roots penetrate the made soil, or upper stratum, and enter a cold clay, barren sand, or cankering gravel, that the disease in question will appear. The only remedy in such cases is to use means to prevent the roots from reaching such soils, and to make them take a horizontal instead of a perpendicular direction; and this may be effectually accomplished by laying a floor of bricks, tiles, or flat stones under each tree; a practice we are well assured was adopted even in the orchards of the ancient monasteries. Thus, by care and a little trouble at planting, this destructive disease may be prevented; but while apples are planted with as little care or preparation as an oak or an elm, and afterwards treated with as rough a hand, and this merely because we fancy it a hardy or common tree, canker, and the whole train of diseases to which it is, under bad management, liable, will accompany it through life, and bring on a premature old age.

Our drawing was taken in the garden of His Royal Highness Prince Leopold, at Claremont.



H.D. Smith del.t

London, Published by Thomas Kelly, 17, Paternoster Row, 1830.

XXI.

GANSEL'S BERGAMOT PEAR.

Described in Forsyth's Treatise, 4th Edit. p. 152; *Practical Gardener,* p. 472; *Nicol's Calender,* p. 175. *Figured in Pomological Magazine,* No. 35; *Hooker's Pomona Londinensis,* No. 17. *Enumerated in Hort. Soc. Fruit Catalogue,* No. 53.

This excellent autumn pear is of English origin, and is said to have been originated from seed by Lieutenant-General Gansel, some time about the middle of the eighteenth century, at his seat, Donneland Hall, near Colchester. The Autumn Bergamot is one of its parents, but what the other was no record is left. It has been often described as differing little from that variety, and Nicol, in describing it, says,—"Differing little from the Autumn Bergamot, but said to be the same thing improved by culture." This is, however, incorrect, and is a mistake into which we inadvertently fell in describing it in "The Practical Gardener," p. 472, and which we now avail ourselves of correcting. It is a very superior pear, although a much shyer bearer. The fruit of our subject is usually produced towards the extremities of the branches, whereas the Autumn Bergamot produces its fruit in general pretty regularly all over the tree. The latter succeeds well as a standard or espalier tree; the Gansel only when on a good wall. The fruit of our subject is much larger than the other, often twelve inches in circumference. In colour it is much lighter than the Autumn Bergamot, and the leaves are so conspicuously covered with a white farinaceous-like covering as to distinguish the tree, at a considerable distance, as distinct from most others. As it is an excellent table pear, its scanty crops are a matter of regret. Experiments have therefore been often tried to promote its fertility: the most successful we have noticed have been by taking branches of some other free fruiting variety that may happen to be in blossom at the same time, and sticking them amongst the branches, by which means the pollen escaping from the flowers so brought fertilizes the flowers of the other; so that abundant crops have been the result.

Fruit, large, oval, very regular in outline, compressed very much at the crown; ripens about the end of October, and will keep till the middle of November; core very small; flavour good.

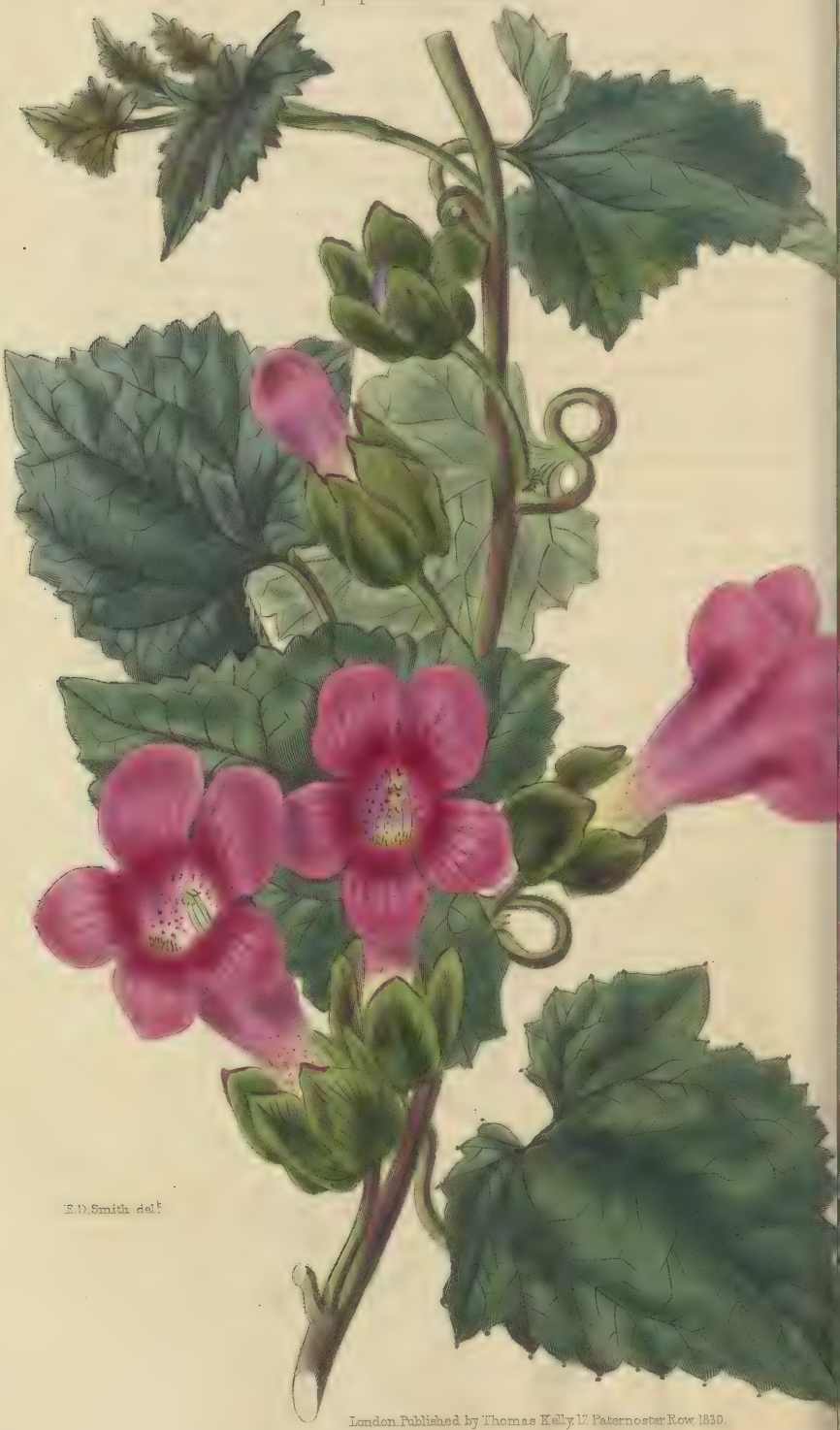
Wood, on old trees very slender, stronger on those that are young, covered with a soft mealy substance, as well as the under side of the leaves.

Tree, hardy, and not subject to disease.

Besides the simple process alluded to above, for assisting in producing crops on shy-bearing pears, many others might be enumerated; but as the causes which produce sterility, or paucity of crops, in trees are so various, it is necessary, in the first place, to determine what the true cause of such sterility is before any certain means to remove this defect can be rationally applied. For the most part, we believe that the principal cause of pears being so long in coming to a fruitful state is owing to their roots penetrating too deep, a disposition to which they are naturally prone. Injudicious pruning also has a similar effect. In the first instance, the roots, when they extend below the upper or prepared stratum into which they have been planted, acquire the power of throwing much superfluous sap into the tree, which spends itself into the formation of a superfluity of useless leaves and branches, thereby engrossing that proportion of sap which would otherwise (were the roots to take up only their just proportion for the necessary supply of the tree) go for the formation of fruit-buds; or, probably, by drawing from a great depth, too great a supply of crude sap for the tree to digest into a fit state for their formation. Certain it is, that trees, the roots of which have extended to a great depth, seldom or ever are productive. Giving the roots a tendency to elongate horizontally, rather than perpendicularly, will, it is obvious, correct this defect. The nearer to the surface the roots of all fruit-trees are, the sooner they will come into a bearing state; and such fruit will be earlier ripened, and of better quality. The action of air on the roots of trees has a wonderful effect, and so far have some cultivators carried this idea, that apertures have been formed, communicating to drains under ground, for the avowed purpose of admitting this important element to reach them.

Our drawing was made from fruit grown in the garden of His Royal Highness Prince Leopold, at Claremont.

Lophospérnum scándens. 20.



E.D.Smith del.t

London. Published by Thomas Kelly. 17. Paternoster Row. 1830.

No. 20.

LOPHOSPÉRMUM SCÁNDENS.

CLIMBING LOPHOSPÉRMUM.

Class 14. DIDYNA'MIA.

Order 2. ANGIOSPE'RMUM.

Natural Order.

SCROPHULARINÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Mexico.		Sweet's British Flower Garden.	Flower Garden &Green-House.	Light rich Mould.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
July to Oct.	5 to 20 Feet.	Besleria Scandens.*	YoungCuttings or Seeds.	Perennial.

GENERIC CHARACTER.—Calyx, divided into five parts. Corolla, bell-shaped. Capsula, two-celled.

SPECIFIC CHARACTER.—Stem, climbing, soft and tender, from the rapidity of its growth, becoming harder and somewhat shrubby by age, particularly towards the lower parts. Branches, numerous, supporting themselves on other plants, or props, by means of the petioles of the leaves. Leaves, varying in form, unequally indented round the margin; foot-stalks, very long. Flowers, solitary, produced at the axil of the leaves, varying in colour from bright purple to rose-colour.

The GENERIC NAME, LOPHOSPE'RMUM, is derived from the Greek, signifying a crested seed.

The SPECIFIC NAME, SCA'NDENS, from its climbing habits.

GENERAL OBSERVATIONS.—Many plants that now ornament our gardens have found their way to this country under very singular circumstances, and to these our present subject forms a very interesting addition. It appears that, in the splendid herbarium collected by the zeal, industry, and princely fortune of A. B. Lambert, Esq., dried specimens of this plant had been received from Mexico, collected by Sesse and Mocinno, two botanists of celebrity; from which specimens seeds were procured, that had fortunately been fully matured before gathering,

* This synonym is the name given in the Manuscript of Sesse and Mocinno.

and had retained their vegetating principle until they reached this country. The detection of perfect seeds, in a specimen so interesting, was, as may be supposed, highly prized by the venerable owner; and with that liberality for the dissemination of botanical science for which he has so long been conspicuous, he distributed them to various cultivators, by whose industry this plant has been successfully increased and widely distributed. As a green-house or conservatory climber, this plant has few equals, and in such compartments it should assuredly find a place. To the list of flower-garden climbers, it also forms a valuable addition, and, with *Eccremocárpus Scàber* and *Maurandia Barclaiàna,* both figured in this work, should not be wanting. How far it may be able to withstand the severity of our winters in the open borders, even when partially protected, is not as yet sufficiently ascertained; but this circumstance, in relation to all rapid growing plants, like those above mentioned, is, in our opinion, a matter of much less consequence than, as it would appear, is considered by many, as a sufficient stock of young plants of either may with so little trouble be procured in autumn, and protected either in a green-house or even a garden-frame till spring, when, if planted out and properly treated, it will not only flower as abundantly, but in most cases attain a size equally great with those that may be, *per chance,* kept all the winter in their permanent situation. Cuttings taken from the lateral, or side-branches of this plant, when about three or four inches long, will root freely, either in pure sand or in light sandy soil, without a glass; and, when rooted, they should be potted off into small sixty's pots, one plant in each pot, and if kept in a close frame for a few days, until they be rooted, will require no other care till spring but to be kept from frost and damp, and sparingly supplied with water. In the case of most plants of rapid growth, a few specimens should be kept in pots, which will tend to effect a disposition in the plants to produce seeds; and also the cuttings from such, being less succulent and robust, will always be more certain of succeeding by cuttings.

Our drawing was taken from a plant in the open borders in the nursery of Messrs. Whitley, Brames, and Milne, of the Fulham Nursery, where there are at present many rare and interesting plants in great perfection.

Our remarks closed in our last page upon the light and shade of a composition of fruits, which, from the boldness of some of the subjects, and warmth or richness of the colouring, in comparison with flowers, may admit of forming a more perfect picture than the before-mentioned subject; the pupil not being so strictly confined to the exact tint of each object, will have it in his power occasionally to add more shadow or richness of colour in the objects which he is copying, so that he may give more effect to his composition, according to the appearance he may wish to produce.

In some of the pictures of the old masters who have painted these subjects, we may observe the greatest richness of colouring, and, at the same time, the most pleasing effect, producing altogether so beautiful a composition as not to be surpassed by the pictures of those masters who exerted their talents in the higher branches of the art.

As there are two ways in which these subjects may be treated, it will not be amiss to lay down some rules for the observance of the young student.

Of the first, which may perhaps be considered to approach the nearest to nature, the pupil will be more careful in producing the exact resemblance of each object to the specimen before him, and painting them with all that clearness which they will be found to possess in nature; which having performed, he will not attempt to give them more shadow than will be absolutely necessary to constitute a good effect, taking care that each subject be relieved, by a judicious and delicate shadow, according to the description of objects which may cause it, at the same time taking care to keep the reflected lights that will be seen, when objects are placed near to each other, and which, if managed well, will add greatly to the beauty of the composition, in creating greater brilliancy and a closer resemblance to nature, than if entirely disregarded; and as some of the objects will appear of a different colour, when they happen to be so transparent as to admit of the light appearing through them, great attention should be paid to the colour which they then possess, taking care that they be of the right tint, as in many instances the character and resemblance of the object will depend upon the truth with which this part is executed. And when it is considered that, in attending to these remarks, the student will not merely be making his works approach nearer to nature, but at the same time adding to the beauty of his composition, it is trusted that he will make it his study to examine well the different subjects that he is painting from nature, so that he may understand and feel the necessity of paying attention to these remarks; for, without so doing, his composition will not create that interest and pleasure which he will expect as

a reward for the time and trouble that he will have to bestow in the study of this part of nature, which by some is considered more difficult than that of flowers.

GANSEL'S BERGAMOT PEAR.

The first tint of green is composed of Indian yellow and Prussian blue, taking care to keep the first tint and shades as even as possible. The veins may be put on with the same colour, and in those parts of the leaf which are of a darker tint add a little gum-water. For the stalks, sepia mixed with a little burnt sienna. Fruit, first lay on the grey, of a warm tint, and when quite dry a tint of gamboge all over, after which the red of a very light tint, and laying it on so that it shall have a spotted look; some parts will require a little brown, and finish up the fruit with the different colours mentioned until it has an even and soft look.

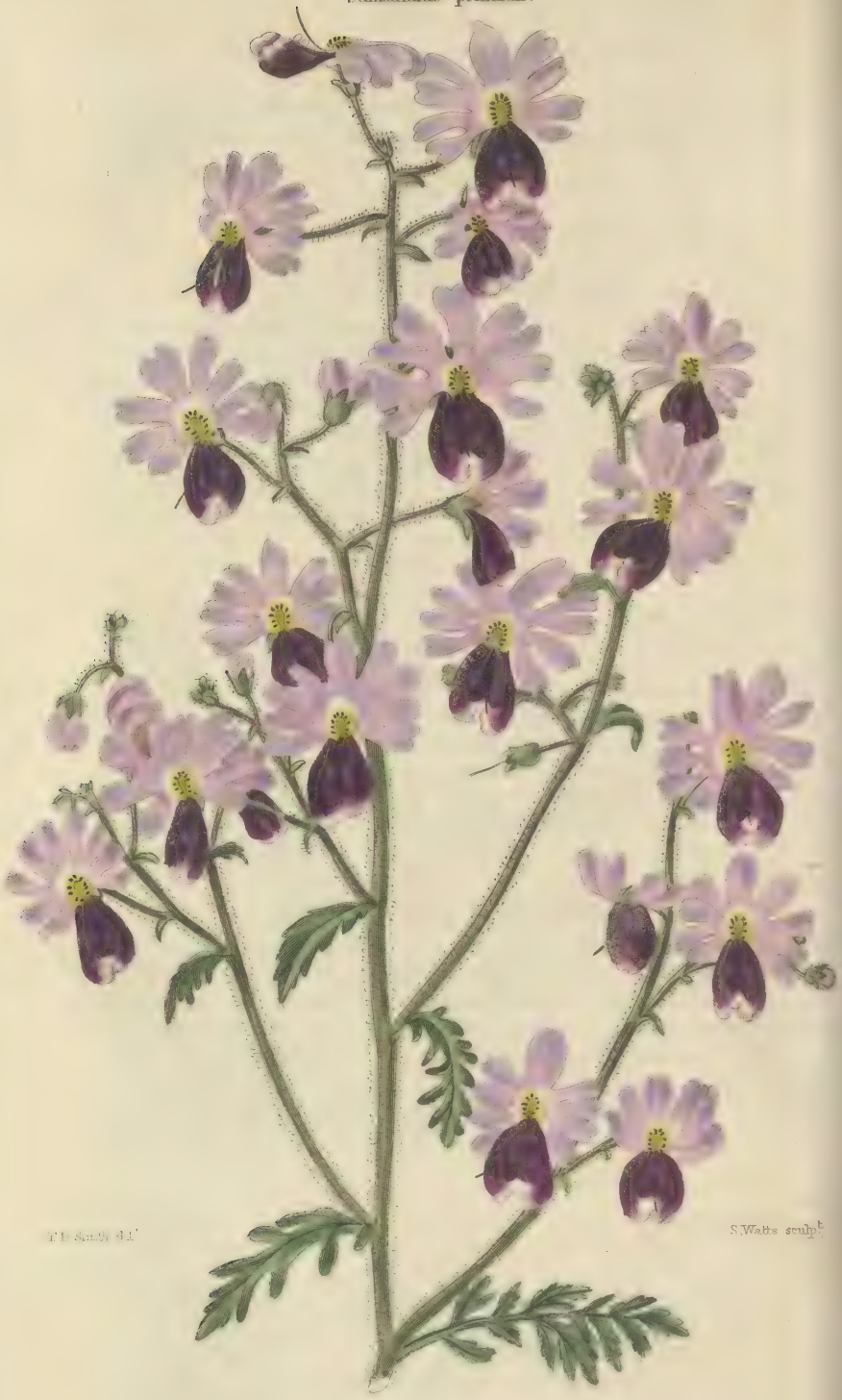
NONSUCH APPLE.

The green of this subject may be proceeded with in the same manner as the above, only using more yellow, and perhaps in some of the shadows a little gamboge with the green. For those parts of the leaf that are brown, lay on a little burnt sienna first, and then a little sepia and lake; the stalk may be of the same colours. Fruit, first a tint of grey for the shade, then lay over a tint of gamboge, and when dry the carmine for the red; this done, a little Indian yellow will be required, and after some of the grey mixed with the carmine to cause it to be darker; these being all the colours that will be wanted, with the exception of a little white and brown in the last touches, the pupil will have to lay the different tints on until he has produced the effect wanted.

LOPHOSPERMUM SCANDENS.

The greens of this plant, being of a heavy colour, should have a mixture of gamboge with Prussian blue for the first tint, and then shade with Indian yellow and Prussian blue mixed together; for those parts which are of a brown colour lay on the lake first. For the flower, first lay on the powder carmine with hartshorn, after which lay on parts a little azure blue, and then finish up the flowers with the carmine stronger and a little gum-water with it; when the flower is dark enough, lay on the spots with carmine and grey mixed together; for the yellow in the centre use king's yellow, and finish the flower so that it shall have as soft a look as possible.

Schizanthus primatus.



F.E. Smith del.

S. Watts sculpt.

London, Published by Thomas Kelly, 17 Paternoster Row 1830.

No. 21.

SCHIZAN'THUS PINNÁTUS.

PINNATE SCHIZAN'THUS.

Class 2.	*Order* 1.
DIÁNDRIA.	MONOGY'NIA.

Natural Order.

SCROPHULARÍNÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Chili.	1822.	Hooker's Exotic Flora, 73.	Flower Garden.	Any good Garden Mould.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
June to Oct.	1 to 2 Feet.		Seeds.	Annual.

GENERIC CHARACTER.—Calyx, divided into five parts. Corolla, two-lipped, resupinate, that is, inverted in position; the upper lip in five parts, the lower in three. Stamens, four in number, two of which are sterile; which circumstance often leads beginners erroneously to refer it to the fourteenth class. Capsuls, two-valved, two-celled.

SPECIFIC CHARACTER.—Leaves, pinnate. Stalk of fruit on one side deflexed at the base.

GENERIC NAME, SCHIZAN'THUS. So named by Ruiz and Pavon, the authors of the 'Flora Peruviana,' from the two Greek words, *schizo*, to cut, and *anthos*, a flower, from the lacerated appearance of the corolla.

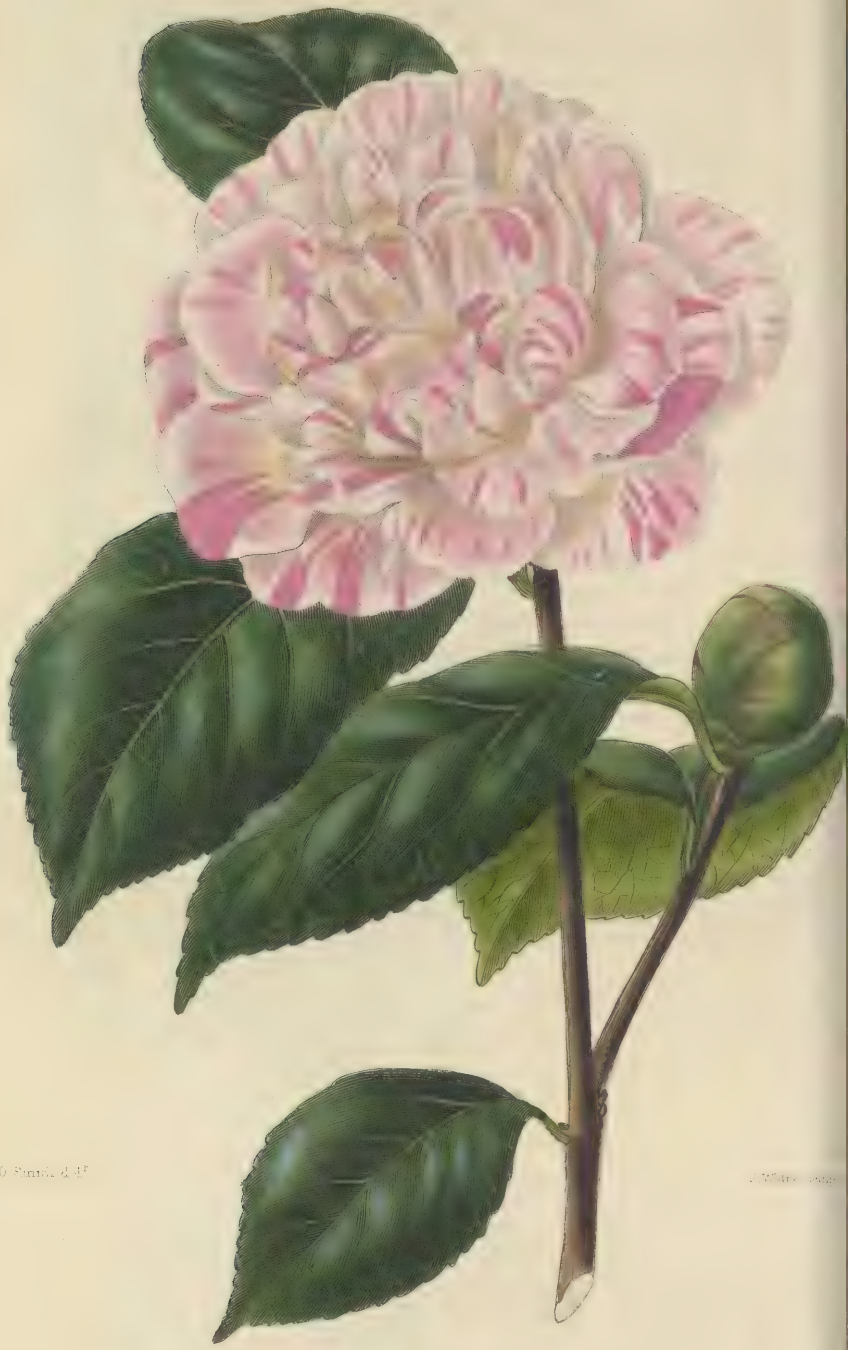
SPECIFIC NAME, PINNATUS, from the leaves being divided into numerous smaller leaves, or leaflets.

GENERAL OBSERVATIONS.—Seeds of this beautiful annual were received, in 1822, from Chili, by Francis Place, Esq., who received them from his son, a resident in that country for a considerable length of time, together with many other seeds, from which several of our most popular plants have originated. These seeds were presented by Mr. Place to the Horticultural Society, and by them distributed into various collections. It is now to be met with in almost every good garden, seeds being annually procured from the seed shops. Botanists have added another species, under the name of *S. porrigens*, a figure of which is

given by that indefatigable botanist Dr. Hooker, of Glasgow, in 'Exotic Flora,' p. 86; but however presumptuous it may appear for us to differ from that accomplished botanist, we cannot nevertheless divest ourselves of the idea that they are only highly marked varieties of one another, seeds taken from the one plant producing plants of the other, as well as many other striking varieties. In this opinion we do not stand single, as Professor Lindley, in 'Hort. Transactions,' Vol. vi. p. 93, in his 'Report on New and Rare Plants,' &c. has arrived at the same conclusion; and the able author of the 'Encyclopædia of Plants,' p. 17, says, "Two species, or rather varieties, are now known."

Although this plant, like many other annuals, may be increased by cuttings, the best plants are to be obtained from seeds, which, however, are not abundantly produced, particularly if left unassisted in the process of impregnation, the position of the stamens being such as to render this assistance of man necessary. When it is required to have this plant in flower early in the spring, either for the decoration of the green-house, conservatory, or drawing-room, it is best to sow the seeds early in autumn, so as to have the young plants sufficiently strong before winter, throughout which they may be kept, if planted thinly, in well-drained pots, or singly into very small ones, and placed on a dry airy shelf in a green-house or plant-pit. Frequent potting in light rich mould with a little heat will make beautiful specimens for this purpose. For the ordinary purposes of planting it out in the flower borders, it is proper also to sow in autumn, protect during winter, and pot off in spring into small pots, in which the plants may remain till the season is sufficiently mild for their final planting out where they are to flower. In regard to situation we may observe, that this beautiful plant is always seen to the greatest advantage when standing singly, or in single rows. Dry and sheltered situations are the most proper for it, as it is liable in damp places to rot off, and in exposed ones to be broken by the wind.

Our drawing was taken from a plant in the garden of His Royal Highness Prince Leopold, at Claremont.



Z. D. Smith, del. et pinx.

J. Miller, sculp.

London Published by Thomas Kelly 17 Paternoster Row, 1830

No. 22.

CAMEL'LIA JAPÓNICA, *var.* SHEPARDIANA.

SHEPARD'S CAMELLIA.

Class 16.	*Order* 7.
MONODE'LPHIA.	POLYÁNDRIA.*

Natural Order.

CAMELLIEÆ.

Native Country. China & Japan.	*Originated*	*Figured in*	*Garden Habit.* Green-house.	*Soil.* Rich Loam and Peat.
Time of Flowering	*Height.*	*Synonym.*	*Mode of Propagat.* Inarching.	*Duration.* Evergreen Tree or Shrub.

GENERIC CHARACTER.—Calyx, imbricated, consisting of many leaves, the inner ones being largest.

SPECIFIC CHARACTER.—Leaves, ovate, acuminate, acutely serrated. Flowers produced from the extremity of the shoots, central petals resembling those of the Waratah.

The GENERIC NAME, CAMEL'LIA, was given in honour of George Joseph Camel, (or Camellus,) a Jesuit.

The SPECIFIC NAME, JAPO'NICA, from Japan, where it grows in great abundance, as well as in many parts of China.

GENERAL OBSERVATIONS.—According to the *Hortus Kewensis,* the original species, *C. Japónica,* from which so many varieties have been originated, was introduced into this country before 1742, as it appears then to have been cultivated by Robert James, Lord Petre. The author of the '*Hortus Britannicus*' records its date as 1739.

The genus *Camel'lia* is peculiarly interesting, not only on account of the splendour of their flowers, which are now become well known and

* POLYANDRIA (from the Greek *polys,* many, *aner* a man,) the name of the thirteenth class in the sexual system; and, in the present instance, serves to distinguish the seventh order of the class *Monodélphia,* which includes flowers whose stamens are indefinite in number.

are universally admired, but also as furnishing the well-known article tea, which may be considered at once as furnishing a luxury, a medicine, and a considerable addition to our revenue. The leaves of the species *Bohea, Viridis,* and *Sasánqua* are principally used for this purpose, and sometimes those of other species or varieties are also taken. The tea districts of China extend from the 27th to the 31st degree of north latitude. The missionaries, however, state that it thrives in the more northern provinces, and Kœmpfer informs us that it is cultivated in Japan as far north as the 45th degree of latitude. The Chinese raise their plants from seeds, sown where they are to remain, consequently the varieties existing must be very numerous. Very little cultivation appears to be bestowed on the tea-plants, even stirring the soil or manuring is seldom practised. The third year after the seeds are sown the gathering of the leaves is begun, which is performed three times in the year, viz. in February, April, and June. This routine is followed until the plants become exhausted, they are then cut down and allowed to spring up for successive crops. More care is taken in gathering the leaves than in encouraging their production; and the various mixtures and their names appear to be made by the merchants at Canton, with the exception of those added in Europe.

The species *C. Viridis* and *Bohea* are tolerably hardy, and considerable specimens of them may be seen in various warm situations in England; but, like the making of wine, it may be questioned, were they even hardy enough to stand our winters, whether, as a national benefit, the produce of tea would be attended with any real advantage. The varieties of *C. Japónica* are less hardy; however, instances occur of their standing out at the bottom of sheltered walls. Such experiments are worthy the attention of the British horticulturist, and we have no doubt but that in time they will become as familiar in the flower-garden and shrubbery as the *Kerria Japonica, Pæonia Moutan,* and *Hydrangea Hortensis,* from the same latitudes, and which, within our recollection, were considered as tender plants.

Our present subject was drawn in the nursery of Mr. Colville, King's Road, Chelsea, who possesses a splendid collection of this genus, and in which are many new ones of great merit. To these last our present subject belongs, and has been named as above by Mr. Colville.

E.D. Smith del.t

London Published by Thomas Kelly 17 Paternoster Row.

XXII.

BROWN BEURRÉ PEAR.

Described in Forsyth's Treatise, 4th Edit. p. 144; *Ency. of Gardening*; *Practical Gardener*, p. 475. *Enumerated in Hort. Soc. Fruit Catalogue.*

The Brown Beurré has long been, and very deservedly so, a favourite pear in the gardens of this country, and it is found cultivated under various names, such as the *Red Beurré*, *Beurré de Roi*, &c.; denominations, as the late Walter Nicol observes, "which depend on the colour of the soil in which the trees grow." We have noticed in this work, in treating of the Hamburg Grape, the effect of soils on the colour of fruits, and we may here add, that not only the finer sorts of fruits, such as grapes, peaches, &c. are affected by this circumstance, but also apples and pears, and almost every other fruit in a greater or less degree. It is strictly a wall pear, seldom succeeding on espaliers or standards, at least so as to be worth planting.

Tree hardy, free grower, in a good soil a good bearer, ripens its fruit in October, and continues in eating during November and December.

Fruit, longish, reddish brown towards the sun, and yellowish next the wall. Flesh, melting and full of rich juice.

Wood, on established trees rather slender; leaves small.

This is evidently one of our very best old pears, and decidedly superior to the majority of the newer sorts which have been latterly so much extolled. Every addition to a fruit so generally admired as the pear is desirable; but as we profess to address ourselves to practical readers, and having pledged ourselves to recommend none but fruits well known for their productiveness and other good qualities, as well as such as have been proved to succeed in our climate, we cannot too severely censure those who wish to exterminate our good and approved fruits to make room for those of exotic origin, of whose real merits, when grown in this country, there has as yet been no sufficient evidence to enable us to form a just opinion. However, we are far from wishing to depreciate the merits of such fruits in their native country, for certainly they are good; but let it be remembered that the climate of France and the Netherlands is very different from ours, and although many of these trees have produced fruit of the first excellence at Brussels, still it is not to be fully expected that the same sorts will be ever worth occupying a wall in many parts of England, and in few in Scotland. We are (it should be observed) perfectly aware that our present subject

is itself of exotic origin, but then we have had the experience of nearly a century of its merits when cultivated here. We have been led into the foregoing remarks in consequence of certain horticulturists evincing such great zeal in recommending long lists of pears, few of which have even produced fruit in this country, and some of these even of inferior qualities. We have seen walls almost stripped of very good trees to make way for them; and thus gardens, which have long been noted for the goodness and abundance of their fruit, have, in consequence, become almost barren, and the proprietor been obliged to apply to a fruiterer for the supply of his table. We have elsewhere remarked, that the safest way to treat new fruits that have not been sufficiently proved in our climate, is to work them on trees that are already established: if they succeed by that means, let them be farther encouraged; if not, the trouble is little, and the loss none. Indeed, by this means they will in many cases produce fruit the second or third year; whereas, if young trees were planted, the same end may not be attained in nine or ten, and probably not in twenty, which is a long time to lose the use of a piece of good wall, and what is still worse, to have at the last the mortification of digging them up and planting others with as little certainty of success. In planting gardens, when abundance of fruit is required, it is well to content ourselves with fewer sorts, and those of kinds known for productiveness and merit, and only by degrees introduce those the merits of which are doubtful. The experimental gardens and nurseries will always afford abundant proofs of the relative merits of new fruits; and as such institutions are conducted either for experiment or profit, it follows that those who profit by them should contribute towards the funds of the former and the profit of the latter.

Our drawing was taken from a fruit in the garden of His Royal Highness Prince Leopold, at Claremont, grown on a very aged tree.

HAVING already stated that there are two ways in which the pupil may paint a composition of fruit, and having given our ideas of the way in which the more delicate one should be treated, we now purpose to speak of the other and bolder style. Considering that the pupil in this department will have a much wider field for his treatment of the light and shade, it will be necessary for him to make a slight sketch of the arrangement of the subjects upon a piece of paper, in order that he may be able to lay in the different tints, and form that depth of colouring which he may wish his picture to possess. By so doing in the first instance, in a rough manner, much trouble will be saved, and a better effect obtained; indeed, in all cases where there are a number of objects to compose, it is recommended to proceed in the manner now directed, or otherwise the mind will have too much to think of at once, and while attending to the minutiæ, or finishing of each object, he will be liable to overlook the proper effect, unless there be a sketch to refer to.

We would, in the commencement of a group of this description, recommend the student, after the outline be done, to put in those shadows which he will perceive in the design which it is supposed he has previously made, until he has produced some degree of effect. This being done, he may then lay on the colours of the objects themselves, by which means the former tints will be softened down, and much loss of time prevented. After these tints are laid on, he will be able to observe those which are still wanting, in order to bring the subject up to the effect desired.

When the student has proceeded thus far with his picture, he may attend to the finishing of each subject, taking care to lay on those colours which will produce a warm effect, and at the same time tend to give the proper colour of the object. Although the pupil may not be so confined in this description of picture to the delicate tints to which he would be subjected in the former one of which we spoke, yet he should not lose sight of nature in any one instance in which it can be attended to. Further, he will pay great attention to the outline of the objects, where it is intended that a great depth of shade shall be introduced, so that it does not appear of a decided termination, but exhibits the effect of being lost in the shade, by which means much greater beauty and interest will be given. Some of those objects which are quite in the back-ground may be almost lost to the eye; for we are now supposing the same to be of a very dark tint, as of course a composition of this kind would not look well on the reverse; and if there be any green introduced, such as a leaf, &c. it must be made to harmonize with the other subjects, by painting them with a considerable deal of brown

intermixed with the green; and as we may in nature always find objects so affected, the pupil will not have to conceive the proper colour.

SCHIZANTHUS PINNATUS.

Green, first lay on a tint of gamboge and Prussian blue, and shade with the same, but taking care that it be not too dark; this being a light subject the strength of the green is in proportion. The flowers will require, for the upper part, a tint produced by a mixture of carmine and azure blue, and shaded with a colour possessing rather more blue than the first, laying the tints on very light; for the other part of the flower use the same colours, but very dark, and Indian yellow for the centre.

CAMELLIA JAPONICA.

For the green of the leaves use a mixture of gamboge and Prussian blue, shade the same with Indian yellow and Prussian blue, and in some parts mix the two greens together, taking care to produce as much gloss as possible, by keeping the lights strong, also to lay on the colours in such a manner that they shall appear of an even and smooth surface; the veins must be laid on last of all with king's yellow. Stalk; burnt sienna, shade with sepia. Flower; first a very light tint of carmine, when dry lay on the shade of a delicate grey, taking care that it be not too dark; this being done, lay on Indian yellow in the centre, and afterwards the stripes of a darker tint of carmine, this must also be soft, to retain the character of the flower.

BROWN BEURRE PEAR.

The green of this subject will only require a mixture of Indian yellow and Prussian blue, and shading with the same; after which the veins may be put on with a darker tint and a little gum-water. Pears; first lay on the grey of a warm tint, then a tint of gamboge all over, which will tend to soften down the first; when this is quite dry lay on some lake, but taking care not to make it of too even a tint, and introducing a little burnt sienna in some parts to give a browner look; these tints being quite finished, the light spots may be put on with white and king's yellow, and the others with brown.

NEW SERIES

OF

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It being the anxious desire of the Author and Publisher of this Work to extend the sphere of its utility, and to render it in every respect one of the most interesting and valuable now published, on all subjects connected with the Culture of Fruits and Flowers, it has been resolved to commence a NEW SERIES on the 1st March next, on a Plan of general Improvement, and more extended Information. With the view of supplying the place of the Pomological Magazine, now discontinued, the Fruits and Flowers will not be given promiscuously, but in the New Series, each Number, published alternately on the 1st of every Month, will contain two Fruits and two Flowers, thus adapting the Work to the exclusive taste of the respective Purchaser, whether Florist or Pomologist. One of the greatest advantages resulting from this change in the arrangement will be, that more time will be allowed to the artists to perfect the colouring of the subjects, of which, notwithstanding some very high and flattering eulogiums have been received of their beauty and accuracy, it must be still admitted, that some room yet presents itself for improvement. It has also been taken into consideration, that, as the Pupil, from the practical precepts laid down in the Instructions for Drawing and Colouring, must have acquired a sufficient proficiency in the various Branches of the Art, a discontinuance of that department might be effected without proving in the least injurious to the general design and character of the Work. Each subject, therefore, of the New Series, will, as in the former one, be accompanied by two pages of theoretical and practical Information, concerning its culture, properties, and excellencies; and the two pages, which in the former Series, were restricted to the Instructions for Drawing and Colouring, will in future be devoted to Miscellaneous Informa-

tion connected with the general subjects, and which could not with strict propriety be incorporated in the body of the work. This arrangement will admit of a greater variety of Botanical and Pomological Information being given, as well as the essence of whatever is new or peculiarly useful in either Department, and which, it is hoped, will prove highly acceptable to the Subscribers in general.

To meet the views of all Parties interested in the culture of Fruits and Flowers, it has been resolved, to reduce the Price of each Number to *Two Shillings;* and when the extra Letter-Press intended to be given in the New Series, compared with that given in the former one, is taken into consideration, its extraordinary Cheapness will appear as one of not the least recommendatory features of the Work, at the same time, that the Embellishments will be executed in a superior style of beauty and fidelity to the original. On a comparison, therefore, of the general merits of the FLORA AND POMONA,—its beautiful Illustrations,—its original Information,—its practical Instructions,—and its scientific Analyses, —it may be affirmed, that there is no Work extant, which combines such extraordinary advantages, at so low a Price.

The following are amongst the numerous Testimonials which have been given of the merits of this Work :—

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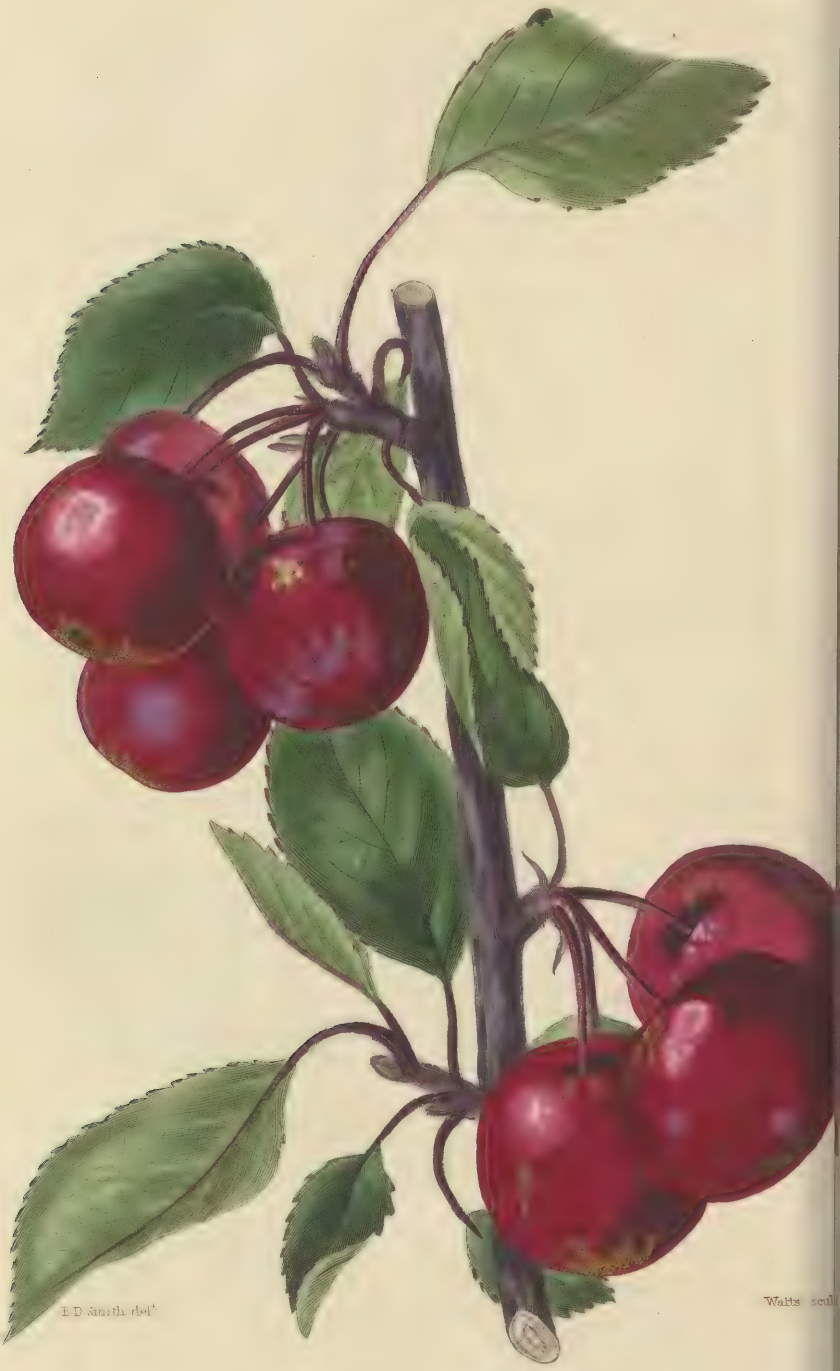
Printed by J. Rider, Little Britain, London.



London Published by Thomas Kelly, 17 Paternoster Row, 1831.

XXIII.

SIBERIAN CRAB.

The Siberian Crab is not unusually introduced into the shrubbery and pleasure-ground as an ornamental tree. The beauty of its blossoms in spring, and of its fruit in summer and autumn, renders it highly deserving of our attention for that particular purpose.

As a fruit-bearing tree it also enters into collections in the orchard and fruit-garden, on account of its beautiful and abundant fruit, which although by some considered too austere to be eaten in its natural state, is, nevertheless, by others much prized for its sharp, although pleasant flavour. The confectioners prepare from it a variety of preserves, which are esteemed at the tables of the great, on which they appear in a great variety of forms.

The Siberian Crab will thrive and produce abundant crops of fruit in soils and situations considered unfavourable for the growth of most other species of fruit of the same genus. As it shows no appearance of canker nor disease, and is considered a tolerably long-lived tree, succeeding in indifferent soils, and of moderate growth, we suspect it might be advantageously used as a stock on which to ingraft apples of the more delicate and slender growing kinds, particularly when it is intended that they should not occupy much space, or be trained as dwarf standards. It might also, for this purpose, be used as a superior substitute for the Paradise Apple, generally used as a stock for similar purposes, but which is often affected with canker at an early stage of its existence.

It differs, also, in a particular manner from the native crab of our woods, or the stocks originated from seeds of cultivated apples, both of which are so universally used as stocks for grafting on, and furnish us with another to the already numerous evidences we have of the continued influence of original or native climate upon vegetables when they are naturalized, or imported into other regions or climates. In Siberia, where this tree is a native, the winters are intensely cold, the change to summer is sudden, and the heat afterwards equally great. The transitions from the cold of our winters to the uncertain and varying warmth of our summers are much slower and very fluctuating; and it is during these changes that our fruit-trees suffer, and our crops fail. While with us our native crab is leafless, and making no signs of putting forth its leaves and blossoms, the Siberian Crab "braves the storms," and early

appears in a profusion of bloom, which is usually succeeded with abundance of fruit, and this even in very unfavourable seasons.

If the stock has any material influence over the scion, which, however, is a question that has long engaged the attention of cultivators, but which has never been satisfactorily explained, we may suppose that the trees so propagated may not only partake of the healthy and undiseased nature of the stock of the Siberian Crab, but also, like it, to a certain extent, produce its blossoms and fruit under all the unfavourable circumstances of our changeable and long springs. Miller, writing about a century ago, says, "that crab stocks cause apples to be firmer, to keep longer, and to have a sharper flavour;" and P. Neill, Esq., in *Ed. Ency. art. Hort.* in alluding to the above quotation, says, "that this is scarcely to be considered as inconsistent with Lord Bacon's doctrine, 'that the scion overruleth the graft quite, the stock being passive only,' which, as a general proposition, remains true, it being evident that the scion, bud, or inarched shoot, is endowed with the power of drawing or forming from the stock that peculiar kind of nourishment which is adapted to its nature, and that the specific character of the ingrafted plant remains unchanged, although its qualities may be partially affected." We are not aware whether this idea has ever been reduced to practice, and if it has, we are equally ignorant of the results. We are, however, at present trying the experiment, and the result may at a future period be detailed in this work.

E D Smith del.t

Watts sc

London Published by Thomas Kelly 17 Paternoster Row 1831.

XXIV.

BELLEGARDE, OR GALANDE PEACH.

Figured in Pom. Mag. No. 26. *Described by G. Lindley, in Hort. Trans.* Vol. V. p. 545; *Practical Gardener*, p. 478; *Ency. of Gardening*, p. 713; *Forsyth's Treatise*, 4th Edit. p. 34; *Miller's Gard. Dict.* 8th Edit., No. 15. *Enumerated in Hort. Soc. Catalogue*, No. 25.

This valuable peach is cultivated under both the above names so very generally, that it might be creating confusion rather than instruction, were we to adopt the one in preference to the other. It is also sold in some of the nurseries, and consequently cultivated in many gardens, as *The Early Galande, Violette, Hative,* and *Noire de Montreuil.* It has maintained a place in our gardens for above a century, as we find it enumerated by Professor Bradley about that period as one of the peaches which he most admired.

FRUIT, large, very globular, suture slightly marked. Skin, deep red, with dark purple flakes where most exposed to the sun; pale green, tinged with yellow, where shaded, and on the side next the wall. Flesh, pale yellow, reddish towards the stone, from which it parts freely. Flavour excellent, melting, juicy, and rich. Stone large for the size of the fruit, slightly pointed.

LEAVES, crenated; glands globular.

FLOWERS, small, bright reddish pink.

Ripens in the vicinity of London about the beginning of September.

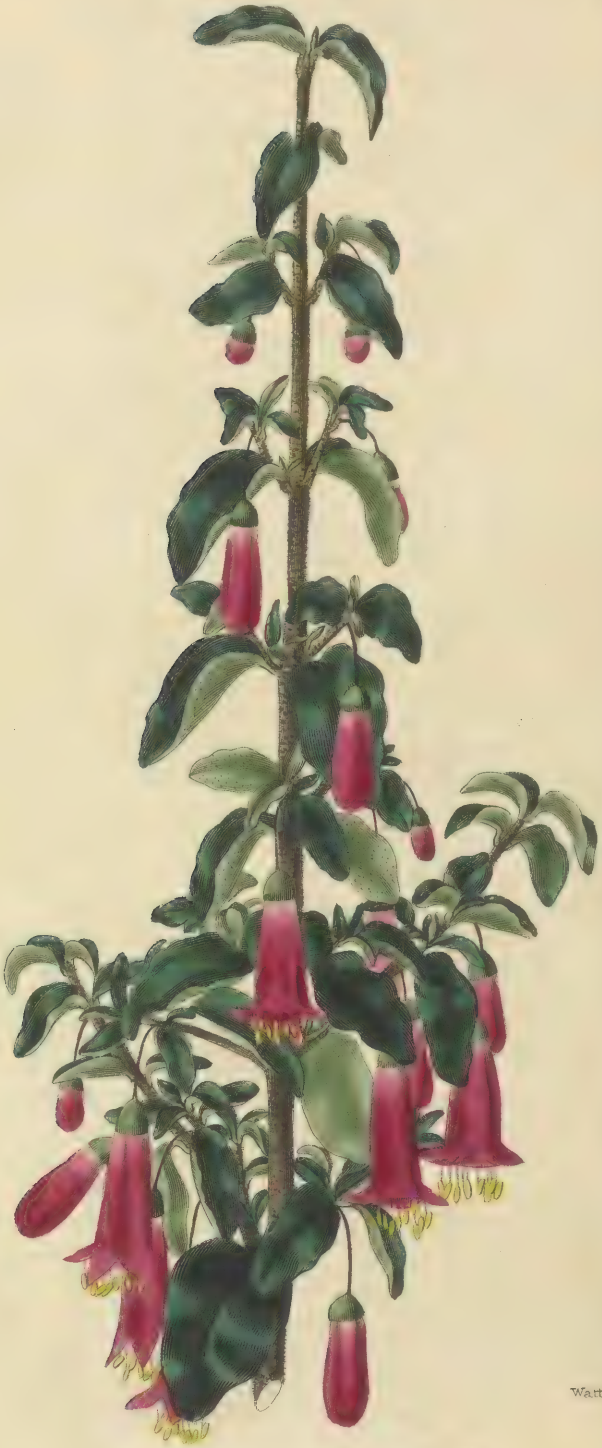
TREE, remarkably hardy, and much less liable to those diseases which are common to the peach in this variable climate, and which renders it one of the most desirable to plant on the open walls. Its merits as a fruit are such, that no peach-house should be without it, and as such it succeeds equally well, whether forced for early crops or for those that immediately precede the crops on the open walls.

The diseases to which the peach-tree in this country is liable, if not more numerous, are decidedly more fatal in their effects than those by which other fruit-trees are affected. These may be said to proceed from the following causes, viz.—unwholesome nourishment, whether supplied by the roots or leaves; injudicious pruning and training; and accidental wounds or injuries, whether inflicted on the roots or branches. Unwholesome nourishment, or improper food, is as obvious in its effects on vegetables as on animals; but seldom, even when known, so easily rectified in the former as in the latter case. Unwholesome nourishment, supplied by the roots, is derived from the soil in which the trees are planted being too poor, too deep, too rich, too light, too strong, too wet, too dry, or otherwise insufficient or injurious in their chemical or mechanical agency. In poor soils the peach makes slender wood, and although it should for a few years be seen to exist, and perhaps produce

a few small fruit, which seldom arrive at maturity, yet it will shortly dwindle into a premature death. In such soils, mulching the surface with rich manure, both to enrich the soil and maintain a greater and more uniform degree of moisture at the roots, is manifestly good practice, as well as regular and copious watering both of the branches and the roots; keeping the tree thin of wood, training that wood nearly perpendicularly, and never allowing too many fruit to be left on the tree. The borders, under such circumstances, should never be cropped, neither should they be otherwise disturbed, but merely by having the surface deeply hoed, or pointed, not more than three or four inches deep, with a fork, to admit the moisture, and to create or increase evaporation. In such soils the peach will never attain a great age, neither will it be productive of good nor abundant crops of fruit.

As the roots of all trees have a natural tendency, when the soil in which they are planted affords them improper or insufficient nourishment, to extend themselves deeper in search of food, they of course get down into a poor or bad soil; or if the soil be too deep, and even good, they extend also to a depth at which neither the beneficial effects of solar heat nor air can benefit them: and in the latter case they may be said to be in no better state than in the former. Effectually to remedy both these evils, the borders should be made of a uniform depth, not exceeding three feet, which is the depth to which the effects of solar heat are supposed to penetrate, and be of use to the roots of vegetables; therefore borders deeper than that may be considered as useless, if not bad. As that may be considered the maximum depth, and found sufficient for pears, from two feet to two and a half is amply sufficient for peaches. To prevent their roots from penetrating deeper, it should be an invariable rule, in making new borders, to form a bottom of matter through which the roots can never penetrate; and in planting in borders already made, this precaution should be carried as far as circumstances will admit. Certain situations present very fit materials for this purpose; as for instance, where stone abounds, a bottom may be formed at no great expense by laying a pavement of thin or flag stones, or by pitching them with smaller stones, flints, brickbats, or clinkers, according as either may be most conveniently obtained. If these be laid closely together, and the joints grouted in with thin lime or cement, a very permanent bottom will be obtained. In situations where neither can be conveniently obtained, a floor may be formed, as recommended in 'Pract. Gard.' p. 327, or even formed of a thin coat of cement laid on a smooth surface. The border over this bottom should be then made with care, and if composed of fresh mould of a proper quality, will nourish the peach tree for many years, and in a very great degree free it from a train of diseases which the want of similar precautions evidently entail upon it.

Corrœa pulchella.



F.D. Smith. del.

Watts sculp.

London. Published by Thomas Kelly, 17, Paternoster Row, 1841.

No. 23.

CORRÆ'A PULCHÉLLA.

PRETTY CORRÆA.

Class 8. OCTÁNDRIA.

Order 1. MONOGY'NIA.

Natural Order.

RUTACEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
New Holland.	1824.	Flora Australasica, No. 1.	Green-House.	Sandy Peat.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
April to July.	5 Feet.		Seeds and Cuttings.	Shrub.

GENERIC CHARACTER.—Calyx, bell-shaped. Petals, four. Capsuls, four-celled, opening with four valves. Cells, one to two seeded.

SPECIFIC CHARACTER.—Leaves opposite, petiolate, somewhat ovate, and more or less undulated, smooth when old, somewhat hairy while young. Petioles, short and stout. Flowers, solitary and all pendulous. Calyx marked with many small black dots.

The GENERIC NAME, CORRÆA, was bestowed on this genus in honour of Joseph Correa de Serra, a Portuguese botanist of great theoretical acquirements, by the late Sir J. E. Smith.

The SPECIFIC NAME, PULCHE'LLA, is derived from *pulcher*, pretty, neat, elegant.

GENERAL OBSERVATIONS.—This splendid plant is the last addition made to this interesting genus, all of which deserve a place in collections of the most select description. The present species was introduced to this country from Kangaroo Island, on the south coast of New Holland, by Francis Henchman, Esq., an amiable man, and much devoted to the science of botany. By his exertions, and at a very considerable expense, he has been the means of introducing many rare and valuable plants, both from New Holland, the islands in the Pacific, and from South America. At his expense, the collector Baxter, investigated a great part of the former country; his success has been unusually great,

as a reference to the Clapton collection, and also to the works in which the plants of New Holland are enumerated or described, bear ample testimony. Not only are we indebted to him for many plants hitherto either entirely unknown, or only described by travellers in that country, but also for many splendid plants from South America, from which he is at this time daily expecting a further arrival, in the care of his industrious and persevering collector Mr. James Anderson, who has been for the last four years in that fertile country.

The cultivation of the genus Corræa, like that of most of the plants from the same latitudes, is by no means difficult after they attain a certain size or age; a pure air and barren soil are indispensable. In regard to temperature, the protection of a good green-house or conservatory is almost all that they require; and although some of them are found to prosper well when planted out in the open air in this country, in favourable situations, still the more tender require occasionally a little artificial heat; but this is more apt to be carried too far than otherwise: if the temperature in winter be kept above the freezing point, it will be found that they will succeed better than if a greater temperature be made use of.

The present genus are all occasionally increased by cuttings of the ripened wood, planted in pure sand and covered with a bell glass, and placed on a shelf in an airy and light part of the green-house, or upon a larger scale in a hot-bed frame, without any bottom heat. If planted in autumn as soon as the wood be ripened, and kept from frost during winter, they will root readily in spring, and by the middle or end of summer be fit to pot off into small pots individually. The species *alba* and *virens* are most readily increased by this means, and are generally made use of for stocks, on which to inarch the species *speciòsa, rùfa,* and *pulchélla,* which do not propagate so freely by other means.

In inarching these, it is a usual and good practice to select pretty large branches, which, after the union has taken place, will much sooner make handsome plants than if smaller pieces were used. In cases where it is necessary to separate the scion from the parent plant, and to engraft it, the scion should be procured as long as possible, to admit the lower end being immersed in a small bottle or phial of water, which should be renewed every two or three days, until a union takes place. It is seldom, if ever, that any of the genus perfect their seeds in this country; but seeds are occasionally imported from their native country, and if in a good state of preservation on their arrival, should be sown in sandy peat, and kept in a cool and airy place until they vegetate.

The drawing of our present subject was taken in the collection of Mr. Colville, King's Road, Chelsea.

It would greatly assist the pupil in the painting of the subject of which we spoke in our last page, if he were to copy a few pictures of the old masters. We have previously recommended the student to examine them, but by a copy he certainly would derive much more benefit, as by that means he would better understand the manner in which those masters proceeded to produce the effect of their picture; and, in the commencement of the copy, we would caution the pupil against endeavouring to give at once the depth of colours that the original may possess, but to proceed by degress, laying on the first tints in a light manner, and repeating them until he has brought it up to the picture before him; for if he should endeavour to avoid this, thinking to save time, he will fail in having the proper colour, and cause his copy to have a hard and unnatural appearance; for as all objects in nature are composed of many colours to produce the one, so we ought to proceed in our attempt to copy her. And if he advance his work in this way, he cannot fail, after a little practice, to be successful, at the same time that he will derive greater pleasure in being led into a closer examination of the object before him. Nevertheless, although it would not be advisable at all times to lay the colours on exactly according to the order in which they appear in nature, owing to the material which we have to use being inferior in brilliancy to nature, yet, in most instances, it will be found the better method. Are not all fruits, previously to their being matured or in perfection, of one simple colour, either white, or of a pale yellow, approaching to cream colour? for example, if we look at an apple, a strawberry, a cherry, or any other fruit, is it not, in the first instance, of a light yellow? afterwards, if observed during the time that it takes to ripen, will not the different tints of which it is possessed be found gradually to increase until perfected? On the same principle ought the pupil to advance his work, until ripened into perfection; and unless he pursue this course, he can never expect to attain any great proficiency in his studies of nature. We also venture to assert, that if he merely examine a fruit while it is undergoing the different changes which it assumes previously to possessing its proper colours, that he will receive such an admirable lesson, in regard to the manner in which he should lay on his colours, as will render the imitation of the object before him comparatively easy. Almost all the different fruits introduced in this work will be found to have been proceeded with in the manner here described.

It is not so often the case that flowers appear to the eye, previously to perfection, of the light colour mentioned above; yet if observed before their expansion from the calyx, they will be perceived to be so, and to increase in colour as the flower advances in size; proving to the young

student, that if nature, who is so perfect in all her works, proceed thus, how much greater is the necessity for his following the example set before him.

BELLEGARDE, OR GALANDE PEACH.

The first tint of green for this subject will require a mixture of gamboge and Prussian blue, and shade with Indian yellow and the same blue; the veins may be put in with the same green, but stronger. Stalk of the same green, and a little lake for the red in parts, and sepia for the brown. The teeth of the leaves touched round with lake. Fruit, first a tint of gamboge all over, then the grey on one side to produce the shade, of rather a brown tint; when this is dry lay on the carmine, and finish up with the grey and carmine mixed together, adding in some parts some Indian yellow, taking care to touch the colours on in a soft manner; and when these tints are sufficiently dark, touch on some white, to give a soft and downy look, and round the edge touch on some hairs of a grey colour.

SIBERIAN CRAB.

The green of this subject is the same as the above, with the exception of Indian yellow with the blue for the back of the leaves; stalks lake, and shade with sepia; branch, sepia alone; and the teeth lake. Fruit, first a tint of chrome, then a tint of carmine, and shade with carmine and grey, and finish up the fruit with carmine and gamboge; and on those parts which are of a light tint, a little azure blue will improve the look. The spots with king's yellow, and afterwards a little sepia laid over the former.

CORRÆA PULCHELLA.

To compose the green of this, mix Indian yellow, gamboge, and Prussian blue together, and shade with the same green of a stronger tint, taking care to give the leaves a thick look, it being a particular character of this plant. Stalk, lake and yellow, and shade with sepia, observing to retain the rough dotted appearance. Flowers, first a very light tint of carmine mixed with hartshorn, when dry, a tint of gamboge, afterwards more carmine until sufficiently dark, and shade with grey mixed with lake, that it be not too opposed to the colour of the flower; for the stamens use chrome, and afterwards shade with grey.

FINIS

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PART 17. [New Series.] Price 1*s.* 8*d.*

John King's, 7th March, 1831.

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NEW SERIES

OF

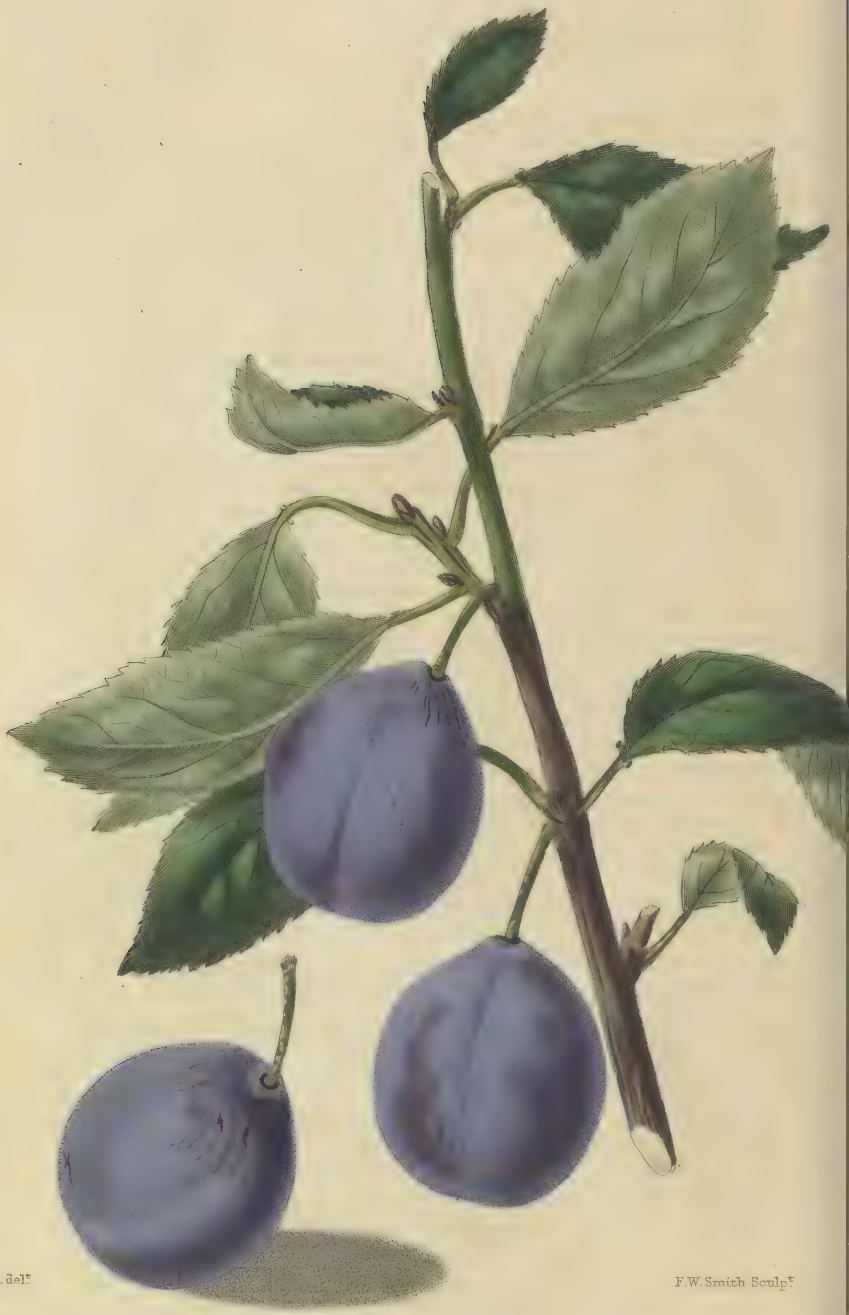
FLORA AND POMONA.

It being the anxious desire of the Author and Publisher of this Work to extend the sphere of its utility, and to render it in every respect one of the most interesting and valuable now published, on all subjects connected with the Culture of Fruits and Flowers, it has been resolved to commence a NEW SERIES on the 1st March next, on a Plan of general Improvement, and more extended Information. With the view of supplying the place of the Pomological Magazine, now discontinued, the Fruits and Flowers will not be given promiscuously, but in the New Series, each Number, published alternately on the 1st of every Month, will contain two Fruits and two Flowers, thus adapting the Work to the exclusive taste of the respective Purchaser, whether Florist or Pomologist. One of the greatest advantages resulting from this change in the arrangement will be, that more time will be allowed to the artists to perfect the colouring of the subjects, of which, notwithstanding some very high and flattering eulogiums have been received of their beauty and accuracy, it must be still admitted, that some room yet presents itself for improvement. It has also been taken into consideration, that, as the Pupil, from the practical precepts laid down in the Instructions for Drawing and Colouring, must have acquired a sufficient proficiency in the various Branches of the Art, a discontinuance of that department might be effected without proving in the least injurious to the general design and character of the Work. Each subject, therefore, of the New Series, will, as in the former one, be accompanied by two pages of theoretical and practical Information, concerning its culture, properties, and excellencies; and the two pages, which in the former Series, were restricted to the Instructions for Drawing and Colouring, will in future be devoted to Miscellaneous Information connected with the general subjects, and which could not with strict propriety be incorporated in the body of the work. This arrangement will admit of a greater variety of Botanical and Pomological Information being given, as well as the essence of whatever is new or peculiarly useful in either Department, and which, it is hoped, will prove highly acceptable to the Subscribers in general.

To meet the views of all Parties interested in the culture of Fruits and Flowers, it has been resolved, to reduce the Price of each Number, 4to. size, to 2*s.*, the 8vo. to 1*s.* 8*d.*; and when the extra Letter-Press intended to be given in the New Series, compared with that given in the former one, is taken into consideration, its Cheapness will appear as one of not the least recommendatory features of the Work, at the same time, that the Embellishments will be executed in a superior style of beauty and fidelity to the original. On a comparison, therefore, of the general merits of the Flora and Pomona,—its beautiful Illustrations,—its original Information,—its practical Instructions,—and its scientific Analyses,—it may be affirmed, that there is no Work extant, which combines such extraordinary advantages, at so low a Price.

London: Printed for THOMAS KELLY, 17, Paternoster Row,
And Sold by his Agents and all Booksellers in the British Empire;

The Blue Imperatrice Plum.



E.D. Smith. delt.

F.W. Smith Sculpt.

London, Published by Thomas Kelly 17 Paternoster Row March 1 1831.

XXV.

THE BLUE IMPERATRICE PLUM.

Figured in Pom. Mag. No. 33; *Hooker's Pomona Londinensis*, No. 4. *Enumerated in Hort. Soc. Fruit Catalogue*, No. 34. *Described in Practical Gardener*, p. 486; *Ency. of Gardening*, p. 723; *Miller's Dict.* No. 25; *Forsyth's Treatise*, 4th Edit. p. 18.

We have adopted the above name to distinguish this variety from the White Imperatrice, a fruit of far less merit. This is sometimes called the Violet Imperatrice, and is supposed to be the *Imperatrice Violette* of Duhamel and other continental pomonologists. It is described by Forsyth as the *Imperatrice* or *Empress* plum.

Fruit, oblong, tapering more towards the base than the apex, middle-sized, about an inch and a half in diameter vertically, and an inch horizontally. Foot-stalks of the fruit scarcely an inch in length.

Flesh, firm, yellowish green; flavour, when fully ripened, exceedingly rich and sweet. Skin thin, though tough, covered over with a more permanent bloom than any other plum, which renders it valuable for carriage. Leaves, pointed at each end, downy, finely serrated.

Flowers, small, opening late, and thereby often escaping the vernal frosts.

This and *Coe's Golden Drop* are unquestionably the two best late plums in cultivation, and although this one has been many years in our gardens, it is much less cultivated than its peculiar merits deserve. In very favourable situations, this fruit is produced in tolerable perfection as a standard tree; but it is only in situations where the fig and hardier apricots will ripen, under similar circumstances, that it is to be expected in full perfection. There is no plum so well deserving of a wall as this, and we would say, that eastern and western aspects are the most suitable for it to the southward of York; to the northward, it is amply worthy of a southern wall. As altitude, in many cases, is much more concerned in the production of fruit than latitude, we beg to be understood as referring only to situations whose height above the sea is not greater than what renders the climate of them favourable for such productions.

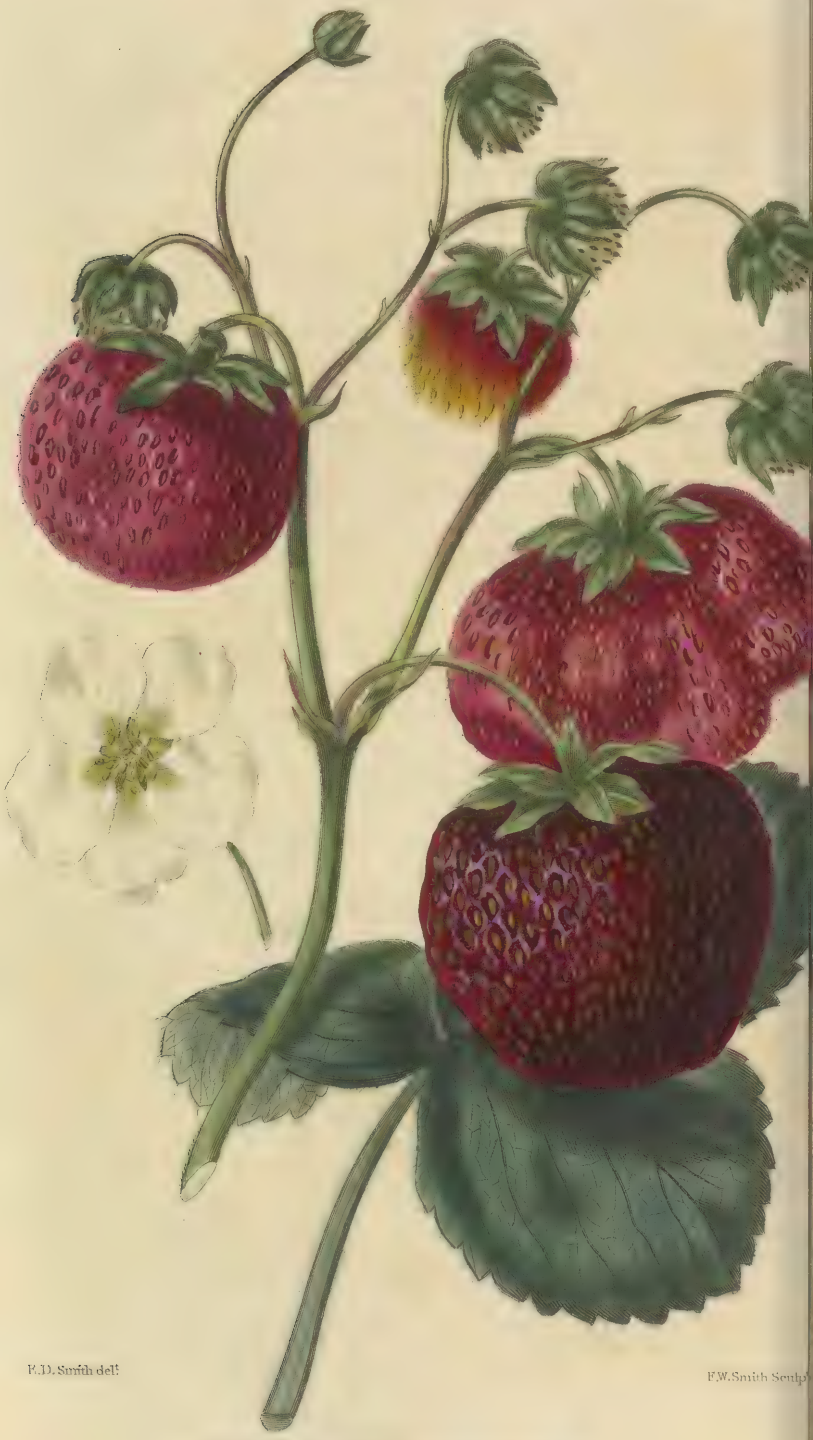
Under any circumstance, this plum should not be gathered before it be fully ripened, and indeed it cannot be scarcely considered as ripe until it begins to shrivel. It lasts in use from about the middle of October to the end of November or beginning of December, or later. The fruit should remain on the trees as long as it can with safety; but as

soon as the nights become too frosty, it should be gathered when perfectly dry, and removed to the fruit-room, where it should be thinly spread out on clean paper, and carefully excluded both from dust and air. The ice-house, however, and particularly the ice-cold chamber (where there are such conveniences) will be found much better situations for this purpose. The last season, we preserved five out of six of these plums in excellent condition till the first of January, by being merely placed in a small box, each fruit enveloped in soft paper, and placed on the surface of the ice.

Much has yet to be learned of the process of keeping fruit, both attached to and after they are removed from the tree, and the period is, we trust, not far distant, when most of our cultivated fruits, not even excepting the most fugacious, will appear on our tables on every day of the year. The rapid improvements in horticulture, by which the fruits of summer are already common to us in March and April by early forcing; and by retarding vegetation, the same kinds are prolonged to November and December, leave us only in want of the aid of chemistry to prolong these during the months of January and February.

It has been experimentally proved that the presence of oxygen gas is necessary to the rotting and decay of fruits. Its absence, consequently, produces a contrary effect. An artificial atmosphere, therefore, produced entirely free from oxygen, is readily produced by chemists. In such an atmosphere, fruits (*not fully ripened*) of every description may be preserved (*or rather their ripening may be suspended*) for a period agreeing with their several natures. And what appears very extraordinary is, that if they be kept in that atmosphere beyond a certain period, they undergo a particular alteration, and will not ripen at all.

An interesting paper in the *Annals de Chimie,* a French journal, for 1821, by M. Berard, of Montpelier, upon this subject, may be consulted with advantage.



F.D. Smith del.

F.W. Smith Sculp.

London, Published by Thomas Kelly, 17, Paternoster-Row, March, 1, 1831.

XXVI.

KEEN'S SEEDLING STRAWBERRY.

Figured in Hort. Transactions, Vol. V. *Enumerated in Hort. Soc. Fruit Catalogue. Described in Hort. Trans.* Vol. VI. p. 200; *Ency. of Gardening,* p. 739; *Practical Gardener,* p. 506.

This excellent strawberry is cultivated under the following synonyms. *Keen's Black Pine, Keen's New Pine, Keen's New Seedling.* It originated with Mr. Michael Keen, a respectable market-gardener at Isleworth, near London, from seeds of Keen's Imperial, which latter originated from seeds sown of the large white Chili in 1806. A numerous progeny was obtained, for the most part white, and by no means well flavoured. The Imperial only was saved, and possessed merits sufficient to induce cultivators to grow it very extensively, particularly for the market. The appearance of the present subject has, by its superior merits, completely driven the other from the market, as well as also out of general cultivation, and were it not recorded as the type of the present fine strawberry, might probably be for ever lost even in name. In 1821, fruit of this strawberry was presented, for the first time, on the table of the Hort. Soc.

Fruit, very large, globular, and often cockscomb-shaped, particularly when the plants are vigorous and in rich soil. Colour, dark purpleish scarlet when ripe, particularly next the sun, the shaded side generally paler. Seeds slightly imbedded in the fruit, which usually has a distinctly marked furrow towards the point or apex. Flesh, firm, solid, and scarlet. Calyx, hairy and incurved. Foot-stalks of the leaves tall, slightly hairy. Leaflets, very large, often between four and five inches across, roundish, of a smooth shining dark green, coarsely serrated. Fruit-stalks, moderately long; peduncles short, weak, and clustered. Flavour middling, but what it wants in that respect is sufficiently compensated for by its extraordinary productiveness and great beauty.

As a marketable fruit, it stands unrivalled, not only on account of its productiveness and size, but also its early ripening, which follows the early scarlet, and is indeed often ripe at the same time, and long before any other of the large sorts.

As a forcing strawberry, few, if any, are equal to it, as it sets freely and swells to a large size, and ripens in a very short time, and, like some others, produces an abundant secondary crop in autumn, if not forced at too early a period of the year.

The varieties of this excellent fruit have wonderfully increased within the present century, and as names intimately related to this improvement, may be noticed those of Knight, Keen, and Wilmot. The Hort. Soc. at an early period of its existence, seems to have done much in increasing the varieties and improving the cultivation of this fruit themselves, and stimulating others to similar interesting experiments. The lists of names of strawberry, even at the close of the last century, did not exceed twelve or fourteen, and about the middle of it they were not half that number. Professor Bradley, writing a little before that period, says, "We have four sorts of strawberries, the scarlet, the hautboy or great white strawberry, the wood strawberry, both red and white."*

Hammersmith, it appears, in those days was the strawberry-garden of London. The strawberry beds have now in that place given way to buildings and other modern improvements, and removed themselves to the neighbourhood of Isleworth and Twickenham, classically styled the abode of the Muses.

Several of the practices of early days have appeared of late years as modern improvements; amongst the number may be noticed that of forcing this fruit, and retarding the crop by cutting off the blossoms. The former was, according to Daines Barrington, known in the time of Charles the Second, as he says, "Strawberries and cherries appeared at the installation dinner given at Windsor, on the twenty-third of April, 1667." And Bradley, writing about the beginning of the last century, says, that they were forced in his time. The same author observes, "that to produce late crops, the leaves and fruit-stems ought to be cut down before the blossoms open, and they will shoot out fresh and bear fruit in September." A somewhat similar, although more rational mode of producing a late crop is common in modern practice.

* What would that industrious writer have thought had he been told that, ere one century had revolved, the increase of names *at least* would have extended to ninety-four, the number of those recorded in the Fruit Catalogue of the Hort. Soc., or that the president of that society could boast of having at one time not less than four hundred varieties in his private garden.

MISCELLANEOUS POMOLOGICAL INFORMATION.

In commencing a new (and which we trust will be considered an improved) Series of the Flora and Pomona, it is requisite that the details of our intended plan, with the improvements, should be submitted to our readers, and to which we now proceed in the following brief manner.

Instead of the instructions for drawing and colouring fruits and flowers, (*vide prospectus,*) which have hitherto occupied this part of our work, and which it is presumed have been not only acceptable to a great portion of our readers, but also that they have been found sufficiently practical to render even beginners tolerably proficient in that delightful accomplishment, it has been considered by the proprietor that, henceforth, that part may be more usefully employed in registering, in those numbers which are dedicated to the figures and descriptions of fruits, whatever is *new, curious,* or *important* in matters relating to pomology; and the same arrangement will be also followed in those dedicated to flowers. These, and the separation of the two subjects, viz. fruit and flowers, in respective numbers, it is hoped will render the arrangement of the Flora and Pomona available to every class of horticultural readers.

In the execution of these arrangements, the author takes invariably for his guide the salutary rule, that practical truths and useful information ought to be his grand and leading object, being well assured that fallacious propositions, however elegantly expressed, cannot, in this enlightened age, long remain undetected and unexposed.

NEW SWEET CHESTNUT.

We are informed that Mr. Donald, of the Goldsworth Nursery, near Woking, Surrey, will have for sale next autumn plants of a new and superior sweet chestnut, which he has obtained from Jersey. We may add, that this and all other superior varieties may be readily increased by engrafting scions of them on stocks of the common sweet or Spanish chestnut.

EXPORTATION OF FRUIT-TREES TO VAN DIEMAN'S LAND.

The present season is now too far advanced for carrying into effect this laudable and, we may say, profitable scheme. We would, however, beg to direct the attention of nurserymen to endeavour to make arrangements for this species of exportation for the ensuing autumn. We are

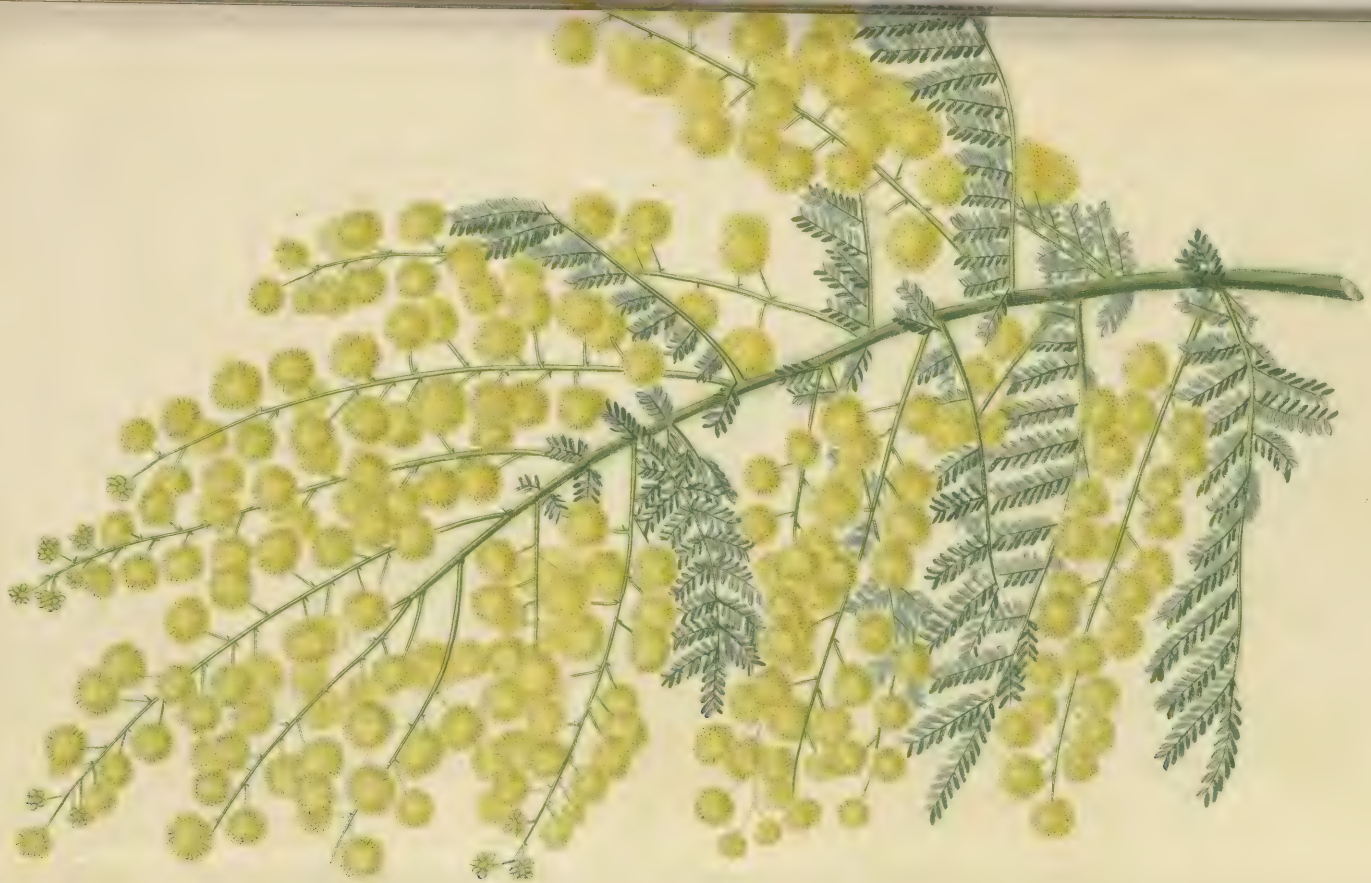
led to these remarks from seeing, in the Hobart Town Courier, that a considerable number of fruit-trees have been received in good condition, per the Wave, Capt. Lister. Strawberries and raspberries only appear to have suffered. This, however, we would suggest can be effectually remedied by sending out seeds instead of plants. It is to be regretted that, with this valuable importation, that great enemy of the apple-tree, the *aphis lanigera*, has been conveyed thither.

Mr. Kirke, the celebrated fruit-tree cultivator, Brompton, assures us that he can pack fruit-trees so as to bear a voyage to that country with tolerable certainty; and from him we had selected a collection, experimentally, as a present for a friend who intended going to the Swan River settlement, but whom unforeseen circumstances have hitherto prevented. Mr. Kirke has promised to supply us with his method of packing, which will be communicated, when received, in the Flora and Pomona.

Cider apples and perry pears we think would also be a valuable addition to the native productions of those countries. The prices of fruit-trees of the most common kinds, at Hobart Town, this last season, have been as high as five shillings each, being rather more than six times the price for which they can be purchased in England. A remuneration of this sort surely will act as a stimulus to some of our opulent and enterprising nurserymen to make a venture in the proper season. If carefully packed and consigned to a respectable agent there, a ready sale is certain; and, indeed, we have little hesitation in stating, that it would pay to send out an enterprising young gardener of some botanical ability to take care of them during the voyage, to superintend their sale, and to remain for a season for the purpose of collecting seeds.

PLANTING FRUIT-TREES FOR FARMERS AND THE IMPROVEMENT OF ESTATES.

His Royal Highness Prince Leopold has directed us to purchase, plant, and maintain all the valuable varieties of apples, pears, plums, &c. in the gardens and orchards of his tenants, and to assist and advise his farmers as to their proper management and culture in future. This we consider a very important advantage granted to His Royal Highness's tenantry, and worthy of imitation, as the profits arising from them will be considerable. It is an advantage which they will reap in the course of a few years, and will last for ages; it is a species of improvement too much neglected by agriculturists in general. We believe that Lord Braybrooke, in Essex, and Lord Cawdor, at Stackpoole Court, in Pembrokeshire, have carried this species of improvement to a very considerable extent and beneficial account.



E.D. Smith del.

F.W. Smith sculp.

London, Published by Thomas Kelly, 17, Paternoster Row 1831.

No. 24.

ACA'CIA PUBÉSCENS.

HAIRY-STEMMED ACA'CIA.

Class 23.	*Order* 1.
POLYGA'MIA.	MONŒ'CIA.

Natural Order.

LEGUMINÒSÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
N. S. Wales.	1790.	Bot. Mag. 1263.	Green-House.	Peat & Loam.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
March & April.	6 to 20 Feet.		Cuttings of the Roots.	Evergreen Tree.

GENERIC CHARACTER.—Hermaphrodite flowers. Calyx, five-toothed. Corolla, five-parted. Stamens, from four to one hundred. Pod, two-valved. Male flowers. Calyx, five-toothed. Corolla, five-parted. Stamens, from four to one hundred.

SPECIFIC CHARACTER.—Leaves, bipinnated. Racemes, axillary, solitary. Heads, globose-stalked.

The GENERIC NAME, ACA'CIA, is of Greek derivation, and used anciently to designate some plant of the present genus. Wildenow has retained it as the name of one of his new divisions of the old family of *Mimósa.*

The SPÈCIFIC NAME, PUBE'SCENS, is derived from *pubes, hair, down,* and has been applied as a general term of habit, expressive of every kind of armature, whether offensive or defensive, with which plants are furnished. If these organs be denied the power of resistance thus given them by some botanists, we may perhaps be nearer their proper use if we consider them to be vessels of secretion only.

GENERAL OBSERVATIONS.—The genus *Acácia* is an exceedingly beautiful and interesting family of plants; the greater part of them are natives of Australasia, and consequently inhabitants of our conservatories and green-houses. We have chosen the present subject, not only on account of its great merits as a splendid flowering conservatory plant, but also as it is one of this fine family that are too seldom seen in collections,

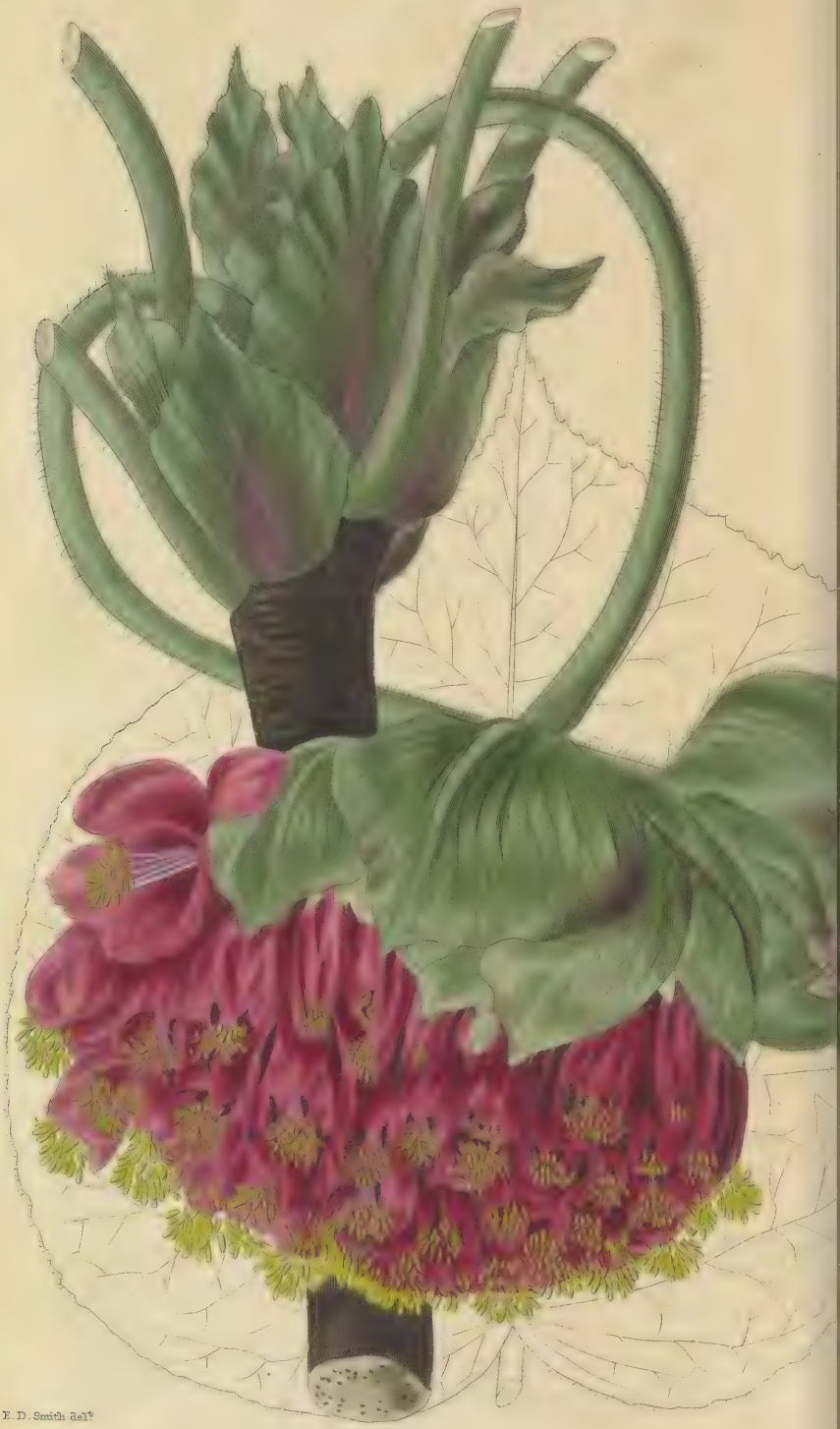
and rarely met with in perfection. Its rarity can only be accounted for from the difficulty by which it is increased; and scarcely any doubt exists that the stinted and sickly habit which it is found to assume must arise from improper treatment. As a general rule, we consider this species to suffer more from too high a temperature than from one that may be considered as low for conservatory plants in general. The finest specimens we have seen, have been in houses where little or no fire-heat is ever applied; and, as instances in point, we may refer to the beautiful tree of this species, which was long an ornament in the spring months before many other plants came into flower, in the Hammersmith Nursery, and also to the specimen in Mr. Knight's large conservatory at Chelsea, as well as one in the conservatory at Claremont. In neither of the latter houses is any fire-heat employed, excepting just enough to prevent the mould in the borders or pots from becoming hard; and, probably, there are few plants of the species in this country that have made such rapid progress, and which flower so profusely. We have more than once known this plant destroyed from being placed in a hot-house, and we have had a practical lesson that none of the genus will succeed long in a bad or confined air. Of above forty New Holland species (as they are generally understood) that were planted in the conservatories at the Colosseum in Regent's Park, not one succeeded; while plants, in comparison to them extremely delicate, prospered exceedingly. The same genus, in the rich collection of Mr. Colville, thrives less in his conservatory than almost any other. A purer air is necessary for them than for plants in general, and although many of the genus will exist in pots, still the most delicate will succeed better when planted out.

In warm and sheltered situations, the majority of this genus that are natives of New Holland and of similar climates, we suspect would succeed better if planted out under a portable conservatory, such as the orange-house at Nuneham Courtenay, referred to in *Pract. Gard.* p. 983, where they might be protected during the cold months, and left exposed to the open air during summer. In such houses, not only the individuals of this genus, but many others from the same latitudes, would succeed; and thus not only bring us acquainted with their various merits, but would create a winter garden, and add an interest to modern gardening at present only known in imagination.

The present species is increased seldom by cuttings of the branches, but occasionally from those of the root. Seeds imported are by far the best mode of multiplying this plant, as it seeds but seldom, if ever, with us.

The present drawing was taken from a plant above twenty feet high, and not more than six years planted, in the conservatory at Claremont.

Astrapæa Wallichii.



E. D. Smith delt.

London, Published by Thomas Kelly, 17 Paternoster Row, 1831.

No. 25.

ASTRAPÆ'A WALLÍCHII.

WALLICH'S ASTRAPÆ'A.

Class 16. MONODE'LPHIA.*

Order 6. DODECA'NDRIA.†

Natural Order.

BYTTNERIACEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Madagascar.	1820.	Bot. Mag. 2503.	Stove.	Rich Light Loam.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
March, July, & August.	10 to 20 Feet.		Cuttings.	Evergreen Tree.

GENERIC CHARACTER.—Calyx, simple, five-leaved, with one bract. Flowers umbellate, with an involucre. Involucre, many-leaved, of unequal sizes. Petals, five, convolute and closed. Stamens, twenty-five, united into a tube bearing the corolla, five of which are usually sterile or barren.

SPECIFIC CHARACTER.—Leaves, roundish, heart-shaped, acuminate, very large. Stipuls, large, ovate, wavy, and not falling off.

* MONODELPHIA, derived from the Greek, (*monos*, one, *adelphos*, brother,) the name of the sixteenth class in the sexual system of Linnæus, and contains plants chiefly characterized by the filaments being united throughout the whole or a part of their length, and has, in consequence, been denominated the class of one brotherhood.

† DODECANDRIA, from the Greek, (*dodeka*, twelve, *aner*, a man,) the name of the sixth order of the sixteenth class, and that of the eleventh class in the sexual system also. It is applied to the order in question from the circumstance of the flowers which enter into it containing not less than twelve stamens, but often more, as is the case with our present subject. In regard to the eleventh class, it must not be supposed that all the plants which enter into it have precisely the number of stamens which the name imports: several have more and some less, but in general varying from twelve to nineteen or twenty. This appears to be the limits fixed for this class by its immortal framer, Linnæus. The situation, and not the number of the stamens may be considered as a more essential character. "By the place of insertion," says Dr. Barton, "we may readily distinguish the plants of this class from those of the twelfth," which is often a stumbling-block to the young botanist; "in the latter, the stamens are inserted either into the calyx or into the petals." It is, however, not so easy to distinguish this class from that of *Polyandria*, in which many plants are included that have less than nineteen or even twelve stamens. Some botanists, such as Crantz and Dr. Barton, have proposed the abolition of this class entirely.

The GENERIC NAME, ASTRAPÆ'A, is of Greek derivation, signifying lightning, and was given to this genus in allusion to the splendid colour of the flowers.

The SPECIFIC NAME, WALLI'CHII, was given in honour of Dr. Wallich, to whom botanists are indebted for many rare and valuable Indian plants and herberia.

GENERAL OBSERVATIONS.—Mr. Lindley conjectures that the *Astrapæ'a Wallichii* of his *Collectanea Botanica, plate* 14, and the plant under the same name in the *Botanical Magazine* and *of the Gardens,* will eventually turn out to be two distinct species. In the former splendid work, the flowers are represented as growing erectly, whereas those in the *Bot. Mag.* and all those that we have observed in the gardens are particularly pendulous. If the figure in the *Collectanea* were taken from a dried specimen, it is not improbable but that the position of the flower might have been altered in the process of drying. It is also possible that this difference might be the effect of debility in the cultivated plant, and still more so that they are two distinct species.

The cultivation of the genus *Astrapæ'a* is exceedingly simple. They are increased very freely by cuttings in pure sand; and in a moderately moist heat they will root in five or six weeks. If plenty of room be allowed to the roots, and the soil used be both light and rich, in eighteen months the plants will have attained a size rather inconvenient for stoves in general. The *Astrapæ'a* forms a considerable stem, smooth and straight, and a remarkably regular round head, which gives it a very different character in a collection from that of stove-plants in general. In houses of ordinary dimensions, it is necessary to re-produce all species frequently, as they are of such rapid growth. *A. viscosa* is also common in collections, but is not so fine a plant. In a stove conservatory, no plant that we know of would be more splendid than a lofty plant of *A. Wallichii* while in flower, which requires to be viewed from beneath to see the beautiful crimson pendulous ball-like flowers, hanging like artificial tassels amongst the large, almost cordate leaves.

The plants of this class vary exceedingly in size. Thus, in the genus *Malva,* some of them are very humble creeping plants, not exceeding a few inches in height; whereas, the *Bombax pentandria,* or silk cotton tree, attains a prodigious size. The *Adansonia digitata,* a native of Senegal and Africa, is known to attain a diameter of twenty-five feet or seventy-five in circumference. The age of this tree is supposed to be no less wonderful than that of its amazing size. It has been conjectured, upon plausible grounds, that the trees observed by Michael Adanson, in the neighbourhood of Goree, were very large in the fourteenth century, and that trees of this species sometimes attain the age of eight or nine hundred years.

BOTANICAL AND FLORAL INFORMATION.

NOTICE OF NEW AND RARE PLANTS IN THE CLAPTON NURSERY.

Lobèlia fúlgens, with blue flowers!—This very desirable plant originated with Mr. Cunningham, of the Comley Bank Nursery, near Edinburgh, who has disposed of his whole stock of it to Messrs. Low and Co., by whom it will soon be offered to the public. By what means Mr. Cunningham became possessed of this singular variety is not stated; we may, however, naturally infer that it is a hybrid between *Lobèlia fúlgens* and *L. Syphilitica.* It will long be considered a desirable plant, and probably induce cultivators to persevere in endeavouring to produce a tribe of hybrids between other species of the same genus.

In the same rich collection we observe *Hòvea purpùrea, Hòvea ellíptica,* a new species of *Pimelèa,* similar to *P. linifolia,* with glaucous leaves, *Renanthèra coccinea* (Fig. in this work), several species of *Bérberis* all splendidly in flower. *Bérberis parviflora* deserves particularly to be noticed, as it is likely to become an addition of no ordinary description to the exotic fruits already in this country, the fruit being very fine, and used in its native country (the Straits of Magellan) for making tarts and puddings.

It is described as growing from seven to eight feet high, producing fruit abundantly; the berries being nearly as large as those of the black cluster grape, produced singly on short foot-stalks. This desirable plant was sent home by Mr. James Anderson, the intelligent and enterprising botanical collector to the above firm. It is gratifying to state that he has just arrived from South America, after a disastrous voyage, during which his whole stock of living plants was washed overboard. His collection of seeds, bulbs, dried specimens of plants, and other specimens of natural history, have been safely received, and are exceedingly valuable and interesting.

He has kindly communicated to us much valuable information regarding the plants of the island of Chiloe, hitherto unexplored by botanists, which shall be noticed in due course.

From that island he has brought seeds of a new *Bérberis,* much more splendid than any hitherto introduced, as well as seeds of several fine

flowering forest-trees, five or six creepers, amongst them a new *Passiflòra,* several *Lobèlias, Alstrœmerias, Calceolariàs,* &c., probably new. Several varieties of fine flowering *Myrtus,* and a great number of other seeds, which are sown, and, under the judicious management of Mr. Low, may be expected to add considerably to the notoriety of this rich collection.

Lucùlia gratissima, a most odoriferous and rare plant, is in great perfection, and young plants of it are now propagating. It is a plant much sought after by collectors, and is probably in no other collection in this country.

Seeds of *Bánksia's, Dryándria's,* and other New Holland *Proteáceæ,* which have been kept in the cones for several years, have been sown this spring, and have vegetated freely: indeed, we may safely say that there are several thousand plants obtained from these seeds. This circumstance we particularly notice, as it is probable that many valuable seeds may have been lost, from a supposition that they are too old to vegetate. Seeds inclosed in such seed-vessels as those of *Bánksia* may possibly, if kept dry, retain their vegetative properties for many years.

NEW AND DESIRABLE FLOWER-GARDEN PLANTS.

The following plants we would particularly recommend as deserving a place in every good flower-garden, viz.—*Sàlvia cardinalis, Verbena Melindris, Eccremocárpus scaber, Lophospérmum scándens,* (the last three figured in this work,) *Salpiglóssus,* all the species; the newly-introduced *Penstèmons, Lupìnusies, Calceolàrias, Potentillas, Gèum coccenium,* (figured in this work,) *Gèum Quellyon, Maurandia Barclaiàna,* (figured in this work,) *Mimulus muscatus,* &c.

Of these, the third, fourth, and twelfth are climbing plants, and suited for training against walls, pales, or rustic supports. They should be propagated by cuttings in autumn, and kept in pots in the green-house during winter, and planted out in April or May. The first, second, and eighth, average two feet in height, and require the same protection. The remainder are sufficienly hardy to stand in the open borders. Of the genus *Lupinus,* several are annuals, and should be raised from seed in the spring. *Salpiglossus, picta, atropurpurea, Staminea,* and *Barclaiàna,* are hardy Biennials or *Perennials,* and may be propagated from seeds, which should be sown in April and May. They are all to be procured at any respectable nursery, and vary in price from one to five shillings each.

F.D. Smith Del.t F.W. Smith Sculp.t

London Published by Thomas Kelly 17 Paternoster Row, May 1. 1831.

XXVII.

THE WHITE HAWTHORNDEN APPLE.

Figured in Pom. Mag. No. 34. *Enumerated in Hort. Soc. Fruit Catalogue,* No. 440. *Described in Practical Gardener,* p. 462; *Ency. of Gardening*; *Nicol's Gard. Catl.* p. 256; *not noticed in the* 4th Edit. *of Forsyth's Treatise.*

This valuable apple is known by the following names: *Hawthornden, The White Apple of Hawthornden, White Hawthorn,* and *White Apple* of most of the Scotch gardens.

The origin of this apple has been satisfactorily traced to the neighbourhood of Hawthornden, a village about nine miles from Edinburgh, on the romantic banks of the river Esk. The original tree, or one of its earliest scions, is said still to exist in the garden of Hawthornden, the birth-place and once the residence of Drummond, the poet.

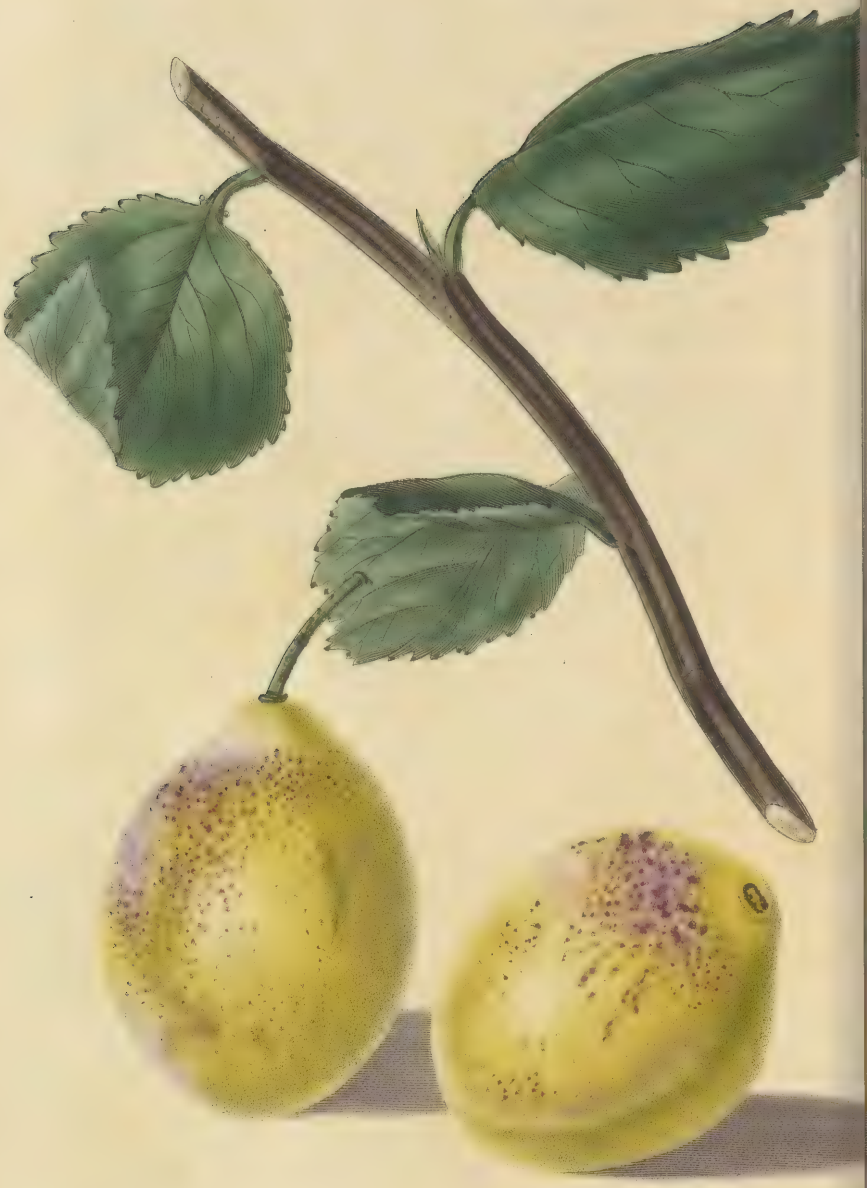
Fruit, rather above the middle size, occasionally very large, attaining a circumference of eighteen inches, rather irregular in shape, although often nearly round. Fruit-stalk, very short. Eye, much sunk. Flesh, white and juicy. Colour, pale green before quite ripe, delicate white where shaded, beautifully marked with carmine towards the sun. Flowers, white and rose coloured; petals, roundish and heart-shaped. Leaves, oval, tapering to a point, serrated very regularly; stipuls, small. Wood, short-jointed, downy, light chestnut colour, with many small spots.

This very excellent apple is more universally cultivated in Scotland than any other; its productiveness, great beauty, and merits, either as a table apple, but more particularly as a culinary fruit, justifying the partiality which the Scotch pomonologists evince for this their favourite apple. It has been very extensively planted in the orchard districts of that country, with a view to economy. It comes into bearing while very young, and continues to produce in almost all seasons, with little apparent diminution of crop. It is not at all unusual to see a tree of this kind loaded with fruit the first year, but almost always so the second after planting, and often broken down under the load of its fruit. To what age it may attain, or how long continue to be productive, cannot well be ascertained, as the date of its origin has not been so clearly determined as the spot where it first appeared. Trees apparently of considerable age, judging from their size and other circumstances, lead to the conclusion that it will continue in a bearing state for half a century, a period sufficiently long for any fruit-bearing tree to be cultivated with advantage, admitting of some few exceptions. In all situations, and

almost in all soils, it is found to prosper; but while its fruit gains additional size and beauty, when planted as a wall-tree, it must be acknowledged that it loses considerably in its merits, becoming spongy and of short keeping. It is to be met with in most collections, and in many of the gardens of England; it is not, however, so fine an apple here as it is in the colder and more humid climate of Scotland.

Mr. Lindley, in *Pom. Mag.* observes, that it is apt to canker in Scotland: this opinion we think wants greater confirmation. It is certainly often met with in a cankered state in that country, but we would say not more so than in England. The circumstances of wounds, soils, and other similar causes, are more concerned in the production of that disease than climate.

It ripens about the beginning of October, and when fully ripened will keep till the middle of December. It is much used for apple-jelly, the flesh changing to a beautiful pellucid state in the operation. As a boiling and baking apple, none excel it; and its great beauty renders it an autumn marketable apple of the first class. It has been grown in pots successfully, and in such a way produces its fruit in quantity while the tree is very small. Apples are seldom, if ever, forced, but were such a practice in use, this of all others would be most likely to succeed.



E.D.Smith Del.t

F.W.Smith Sc

London, Published by Thomas Kelly 17 Paternoster Row, May 1.1831.

COE'S GOLDEN DROP PLUM.

Figured in Hooker's Pomona, T. 14; *Pomological Mag.* No. 57. *Enumerated in Hort. Soc. Fruit Catalogue.* p. 92. *Described in Forsyth's Treatise*, p. 18; *Practical Gardener*, p. 486; *Ency. of Gardening*, p. 723.

Synonyms. *St. Edmund's Bury, Bury Seedling, The Coe's Plum, Golden Drop, Coe's, Coe's Imperial, New Golden Drop, Bury.*

It appears to follow as a natural consequence that every fruit of very high merit increases in the number of its names or appellations, which are from time to time bestowed on it by gardeners, in proportion to the extent of its cultivation. This seems to be the case with the present excellent plum; and however perplexing so many names may be to the cultivator, still it may be set down as a criterion of its great worth, and serves, at the same time, to determine its extensive dissemination.

The present subject is ascertained to have originated about the beginning of the present century, at Bury St. Edmunds, in Suffolk, with a person of the name of Coe, whose name it bears. From what variety the stone was produced from which this fruit emanated, or whether any care had been taken in the impregnation, no certain record appears. It seems, however, probable, that one of its parents might have been the White Magnum Bonum, or White Imperial.

Wood, strong, deep purple or brown, frequently marked with pale spots.

Leaves, smooth, oval, flatish, notched round the margin; foot-stalks of the leaves short, somewhat downy, furnished with a couple of roundish glands near the base of the leaf.

Fruit, large, nearly equalling the White Magnum Bonum, ovalish, tapering abruptly towards the stalk. Fruit-stalk, short, seldom exceeding an inch in length. Flesh, greenish yellow, very juicy and sweet, adhering very much to the stone. Skin, much the colour of the flesh, marked with many reddish spots, particularly where much exposed to the sun. Ripens about the middle of October.

The great merits of this plum consist in its late ripening, and the property of hanging long unimpaired on the tree after it has become ripe. From the period of its ripening, it may be allowed to remain on the tree four or five weeks, if the autumnal frosts should not set in to endanger its remaining out so long. When gathered dry, it may be preserved in excellent condition in a cool dry room, or other similar

apartment: the ice-house, or ice-cold chamber, is, however, preferable, in either of which it may be kept for several weeks; but, for this latter purpose, should be gathered before it becomes fully ripe. The principle simply upon which fruits are preserved in a low temperature is a suspension of animation, if we may so express ourselves. Fruits so preserved should be brought into a moderate degree of heat immediately before they are wanted for use, which will ripen them completely.

As a late plum, this is by far the best and most valuable we have, and will succeed in favourable situations as a standard tree, but may be expected to be had in greater perfection upon an eastern or western aspected wall. In cold and late situations, we would recommend its being planted against walls, and in the more unfavourable of all, against those having a southern exposure.

An instance of a singular phenomenon is recorded in the 6th Vol. of the Transactions of the Hort. Soc. as having occurred in the garden of N. W. R. Colborn, Esq., of West Harling, in Norfolk, communicated by him, and accompanied with two specimens of this plum of different colours, produced on the same branch: one was of the usual colour, the other violet. The fruit of the latter was perfectly formed, and the branch was in good health, so that no disease, he concludes, had any share in producing the change. The flavour of the violet fruit was precisely that of the yellow variety. May we not reasonably ask if this was not the effect of accidental impregnation having taken place between the pollen of a blue variety growing in the neighbourhood of the Golden Drop, and transmitted to it by the agency of insects. Such circumstances, we suspect, often take place in fruits, and from the effect being probably less obvious, or under the eye of less intelligent cultivators, are seldom recorded.

Our drawing was made in the Claremont garden.

SINGULAR MONSTROSITY IN THE PINE.

There is at present a plant of the Queen pine-apple in the Claremont Gardens, the fruit of which is nearly ripe, while at the same time a sucker on the same plant has started into fruit, and is just coming into blossom. This circumstance is, we believe, of rare occurrence, and has never been before observed by any person who has seen the present plant. We have, however, been informed by a gentleman, who asserts that he saw, some years ago, in a garden at Richmond, a pine-plant which produced at the same time a moderate-sized fruit, while a sucker on the same plant not only started into fruit, but, what is still more extraordinary, the crown of the perfect fruit also. Pines often come without a crown or top, and still oftener with many defects, in general caused by the plant having sustained a check at the period of the fruit's first formation. But the cause of a plant showing two or three fruits at the same time is perhaps not so easily accounted for.

KERRISON'S HOT-HOUSE CUCUMBER.

Under this name we have obtained seeds from Mr. G. Charlwood, seedsman, Tavistock Row, Covent Garden, of this very superior variety, which is decidedly the best at present in cultivation for hot-house forcing. We particularly recommend it to the attention of those who cultivate cucumbers either throughout the winter or require them early in the spring. The same variety has been for several years most successfully cultivated by Mr. Forrest, in the pine-stoves at Sion House, and has this season been pretty extensively sold in Covent Garden Market during the months of March and April, averaging in length two feet each. It is as yet by no means common; and as it combines all the properties of a good cucumber, and surpasses all others for winter cultivation, we cannot recommend it too highly to cultivators in general.

TRAINING RASPBERRIES.

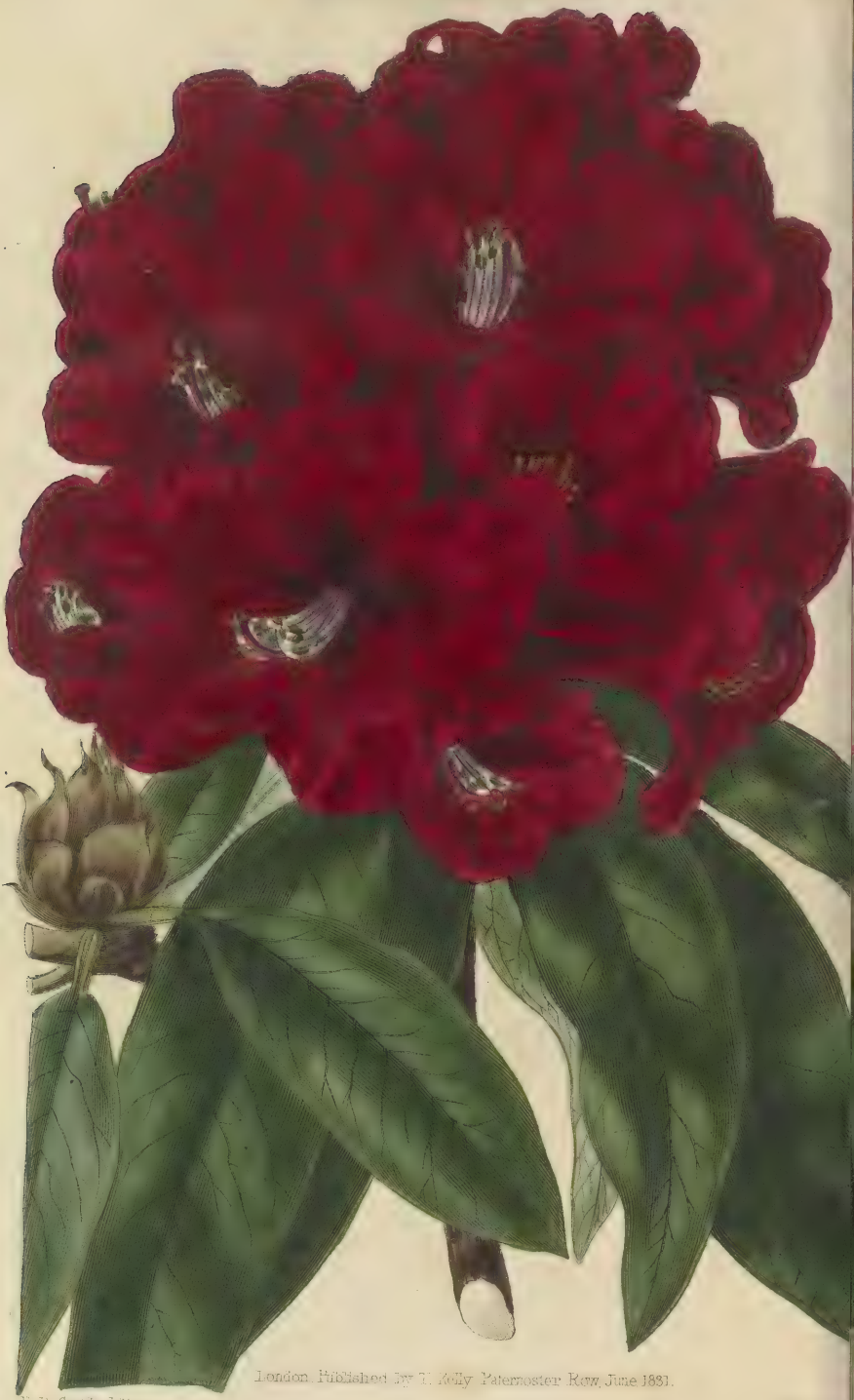
The usual method of training raspberries is merely tying the whole plant to a single pole, but it is objectionable, inasmuch as by that means the shoots are crowded together so closely that the sun and air are pre-

vented from acting sufficiently on the fruit. The market-gardeners round London practise a simple and a much better plan, which is as follows:—Stout stakes are placed at equal distances, say from six to ten feet apart, to these are fixed two long straight rods, one about two feet from the ground, the other about five or six; to these last the shoots of the plants are trained thinly and regularly, by which means the sun and air are freely admitted both to the shoots and fruit, which latter is much improved both in size and flavour, and is not liable to damp in wet seasons, which is the case when the plants are tied up in the usual manner.

PRUNING THE ROOTS OF PEAR-TREES, &c. NOT A MODERN INVENTION.

Pruning the roots of steril pear-trees, to induce fruitfulness, has been recommended by several writers of late years as a modern improvement. Justice, who wrote about a century ago, says, "Of this I have had long and frequent experience, even on large trees that have had but half a dozen of fruits, which after managing their roots in the manner above directed," that is, cutting the tap and other large roots within a foot of the surface, "have, in three years' time, given me annually a dozen pecks of fair well-ripened fruit."

Respecting the idea of placing flag-stones under fruit-trees to prevent their getting too deep or into a bad soil, the same author informs us, that it is a very ancient practice, and instances as a proof the pear-trees in the old garden attached to the celebrated abbey of Melrose, under which, he says, "I uniformly found flag-stones laid in this manner, and the tap-roots were so strong as to have broken some of these flags, although they could not get quite through; and by thus being obliged to spread their fibres, instead of going down, most of these old trees have thereby had annually great crops of fruit ever since they were planted, which was many years before the Reformation.



London. Published by T. Kelly Paternoster Row, June 1831.

R. D. Smith delin. F. W. Smith

No. 26.

RHODODEN'DRON ARBÓREUM.

TREE RHODODEN'DRON.

Class 10.	*Order* 1.
DECA'NDRIA.*	MONOGY'NIA.

Natural Order.
RHODORACEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Nepal.	1820.	Exotic Bot. 6.	Conservatory.	Peat.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
April and May.	3 to 10 Feet.	Nepal Rhododendron.	Seeds, Layers, and grafting on the common sorts.	Sub-Evergreen Tree.

GENERIC CHARACTER.—Calyx,† divided into five parts. Corolla, approaching to funnel shape. Stamens, curved downwards. Capsuls,‡ five celled.

* DECANDRIA, from the Greek (*deka*, ten, *aner*, a man). The name of the tenth class in the sexual system of Linnæus, and is the last of his classes in which the stamens are distinct, bearing any determined relation to the other parts of the flower, and containing flowers having ten stamens. Many plants, valuable in a commercial point of view, are arranged in this class, a few of which are, the genus *Cassia*, three species at least of which produce the senna of the shops; the *Hæmatoxylon*, and *Swietania*, the former the logwood, and the latter mahogany; also the famous *Quassia amara*, the bitter so much used in the making of porter.

† CALYX, or CALIX as it is often written, is defined by Linnæus, the "*outer bark of the plant, present in the fructification,*" and has been denominated by English botanists, the empalement and flower-cup. The calyx is of several kinds, and differs very much in their appearance, and, perhaps, in their office. Linnæus enumerates seven kinds of calyx viz. the *Perianthium*, the *Involucrum*, the *Amentum*, the *Spatha*, the *Gluma*, the *Calyptra*, and the *Volva*.

The *Perianthium* is the most common kind of calyx, and is that of our present subject. This species of calyx is placed most contiguously to the flower or fructification, that is, immediately under it, and on this account has been denominated the flower-cup. The *Perianthium* is of many kinds, for which science has formed appropriate names. The *calyx* and *corolla* are difficult in some plants to be distinguished from each other; thus what has been deemed the *calyx* by one botanist has been regarded as the *corolla* by others. A thorough knowledge of the calyx, in all its varieties and modifications, is absolutely necessary to be attained by the botanical student who wishes to perfect himself in the science of botany.

‡ CAPSUL, CAPSULA, CAPSALL, a species of *Pericarp*, which latter is one of the seven parts of fructification, and is derived from the Latin *Capsula*, (*a little coffer*, or *chest*, or *casket*,) and is a vessel for containing the seeds until they be ripe, when it then splits open for their escape. Dr. Barton, of Pensylvania observes, "Dr. Johnson's definition of the word, in his Dictionary, is extremely lame and exceptionable. He says, the pericarp is 'a pellicle, or thin membrane, encompassing the fruit or

SPECIFIC CHARACTER.—Leaves, lanciolate, acute, and silvery underneath. Flowers, bell-shaped, and produced in clusters. Calyx, woolly.

The GENERIC NAME, Rhododen'dron, was adopted by Dioscorides,* and is derived from the Greek words, *rodon,* a rose, and *dendron,* a tree, *Rose Tree,* because the flowers resemble in colour bunches of roses.

The SPECIFIC NAME, Arbóreum, from *arbor,* a tree, because this species attains in its native country the habit and character of a low growing tree.

GENERAL OBSERVATIONS.—The genus of which our subject forms a part, furnishes us with some of the most beautiful and even splendid ornaments which our flower-gardens and shrubberies contain. The *R. arboreum* is not sufficiently hardy to withstand our uncertain climate, but it is certainly the greatest ornament with which our conservatories can be graced. A hardier progeny may be expected in the seedlings produced from this plant ripened in this country, and particularly amongst those numerous hybrids produced between it and the more hardy species. Mr. Smith, of Combe Wood, and others, have produced many hybrids between this and *R. Pontica,* as well as between it and *Azalia Pontica,* which, as well as being more hardy, is truly curious. The magnificent specimens of this plant in the rich collection of Mr. Knight, King's Road, is not excelled in Europe, and deserves to find a place in the conservatories of royalty itself. In warm situations, this plant may succeed with little protection during winter. But few who have seen the plants alluded to above, if possessed of them, it is presumed, but would accommodate them with a portable-house or glass-case, as recommended in Practical Gardener, p. 983, entirely for themselves.

The botanists, Messrs. Sweet and D. Don, agree in the propriety of uniting *Rhodora* and *Azalia,* two nearly related genera, to that of *Rhododendron.* There appear to exist no proper limits between them, and the circumstance of hybrids being originated from them indiscriminately, seems to favour the position.

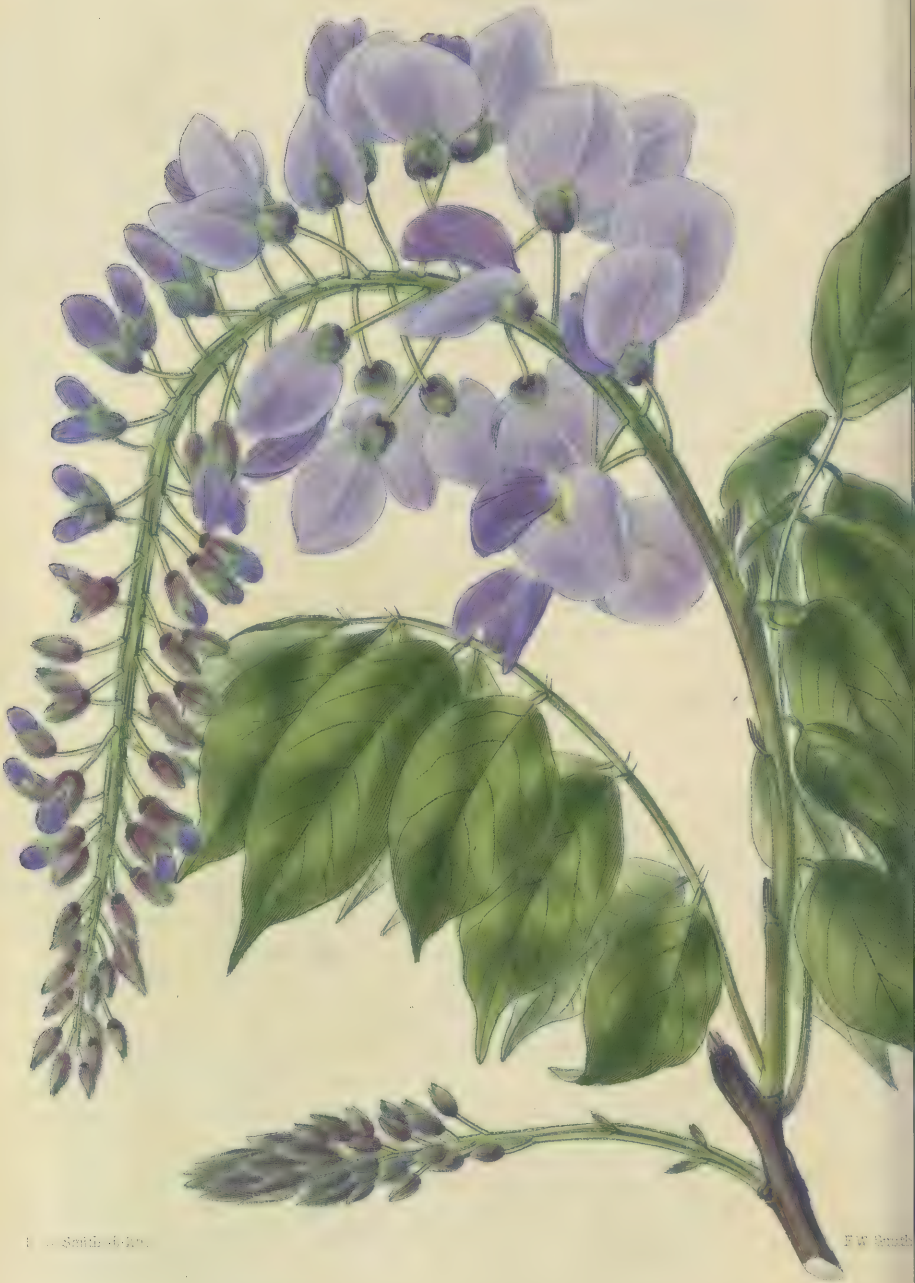
This splendid plant requires a copious supply of water during the period of its flowering and making its shoots. It grows naturally near the base of the Nepaul mountains, and is irrigated by the melting of the snow above, which continues, for the most part, during the period of its greatest luxuriant growth.

Our Drawing was taken from the Collection of Mr. Knight, Little Chelsea.

grain of a plant, or that part of a fruit that envelopes the seed.' " The *capsul* is of many species, and have appropriate names according to their form, texture, &c.; and some *capsuls* are named from the number of seeds which they contain: and the internal divisions are denominated cells, or *Loculamenta,* from the Latin, signifying *a case, a drawer, a bag.*

* The Nerium is, however, supposed to have been the plant of Dioscorides.

Glycine Sinensis.



L. Smith del. F.W. Smith

London Published by J. Reeve Paternoster Row 1 Jan 1879

No. 27.

GLYCINE SINENSIS.

CHINESE GLYCINE.

Class 17. DIADELPHIA.

Order 4. DECANDRIA.

Natural Order.

LEGUMINOSÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
China.	1816.	Bot. Mag. 2083.	Flower Garden-wall.	Any good Garden-mould.
Time of Flowering	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
May and June.	15 to 20 feet.	Wisteria Consequa Wisteria Sinensis.	Layers and Cuttings.	Perennial climber.

GENERIC CHARACTER.—Calyx, two-lipped. Carina, (or two lower petals) pushing back the vexillum (or upper petal of the flower) with its end.

SPECIFIC CHARACTER.—Leaves, pinnated. Leaflets, eleven in number, silky, ovate lanciolate. Racemæ, terminal, nodding loose, many flowered.

The GENERIC NAME, Glycine, is of Greek derivation, signifying sweet.

The SPECIFIC NAME, Sinensis, from China, its native place of growth.

GENERAL OBSERVATIONS.—This extremely interesting plant, when first introduced, was figured in the Botanical Magazine, and known in cultivation as Glycine Sinensis. From that genus it has been subsequently removed, and placed in a new genus founded by Nuttal, in his genera of North American Plants, Vol. ii. p. 115. M. de Candolle, in his Prodromus, Part 2, p. 390, has described the present species under the name of Wisteria Sinensis, a name by which it is also well known in the British gardens.

The present plant was introduced from China by Captain Robert Welbank, and presented by him to C. Hampden Turner, Esq. of Rooksnest, Surrey, in whose collection it flowered, for the first time, in 1819. It is also to be noticed, that the same year, 1816, Captain Richard

Rawes also imported a plant of the same species from China, which he presented to Thomas Carey Palmer, Esq., of Bromley, where it also flowered in 1819. The Horticultural Society, and the splendid collection of Messrs. Loddige, at Hackney, were first supplied with plants from the garden of the former, and the collection of Mr. Lee, at Hammersmith, from that of the latter.

So desirable a plant as this could not long be confined to the collections of a few individuals. It was sold at a high price for the first few years, but nevertheless its dissemination became very general, and is now to be found not only as a climbing shrub upon the walls of many gardens, but is also often met with in conservatories of the first order. In either situation, it is a very desirable plant, the flowers appearing before the leaves, which are produced in long racems, which, when fully grown, are from twelve to fifteen inches in length, and containing from eighty to one hundred flowers each, which hang in vast numbers like the flowers of the much-admired Laburnum, but they are of a beautiful light-blueish colour, and have an agreeable fragrance.

The duration of the flowers of this plant may be considerably prolonged by cultivating it in different situations. Thus, on a warm south wall, it flowers in April, and will last in perfection for three or four weeks, and as a shrub in a warm border, it will come into bloom considerably later, and continue as long. Upon a north-aspected wall, a situation well calculated for it during summer, it will be still later in coming into flower, and will continue so all the early part of summer. Secondary crops of flowers are often produced in all situations, which immediately succeed the first, but these are of shorter duration, and are few in number. In August, those on south walls and in warm borders will flower again in very tolerable perfection.

That so desirable a plant is easily increased is also a merit in its favour. Cuttings of the ripened-wood strike, but the usual method practised in the best nurseries is by laying the long shoots into pots sunk in the ground, bending the shoot, so that one bud or eye may appear through the mould, and when rooted, the shoot is cut into pieces, so that each bud or eye produces a separate plant. Cuttings of the roots were used when the plant was more scarce, but now the mode of increasing by layers is more universally adopted.

To have the plant in a good flowering state, it should be very little pruned. It appears to be a cultivated plant about Canton, and is probably brought there from a great distance. Captains Welbank and Rawes obtained their plants from the garden of Consequa, a Chinese merchant.

ON THE CULTURE OF THE GENUS GARDE'NIA, MORE PARTICULARLY THE SPECIES G. FLO'RIDA AND G. RADI'CANS.

The plants of which this genus is composed are extremely beautiful, and are for the most part highly odoriferous. Their culture is extremely simple, but, notwithstanding which, it is seldom that they are seen in this country in perfection. This may be attributed to their being kept in too high a temperature throughout the year, and otherwise treated as inhabitants of a regular plant-stove. The species *G. Radícans* and *G. Flórida* are the most common and the most deserving of cultivation; to them, therefore, the following observations are principally intended to apply.

They are most readily increased by cuttings of the young, as well as the half-ripened shoots, taken off immediately after they have flowered, and planted in pure sand in a moist heat, without being covered with bell-glasses, nor having their leaves shortened. When slightly rooted, they ought to be put into small sixty-sized pots, in light rich mould, in which they should remain for one season, during which they will flower freely; the former when only a few inches high, and the latter when six or nine inches in height. After these have produced their flowers, they should be re-potted into pots one size larger, and this rule may be followed for several years, or until the plants become too large to be conveniently kept.

Thus far their propagation. We have pursued the following routine of culture with considerable success:—In autumn the plants are placed in a cold glass pit or frame, upon a stratum of sifted coal-ashes, and freely supplied with air during winter, at all times when the weather will admit. During the night, and in very severe weather even during the day, they are covered with mats to exclude the frost, of which they are incapable of withstanding any great degree.

If frost be only entirely excluded, they will be found to succeed much better than in a higher temperature. In February or March, all or any portion of them as may be required to flower at once, should be taken out of the cold pit, and placed in a pit or frame upon a strong bottom heat, but not plunged into it. The temperature may be gradually increased to 90, or they may be placed at once into a temperature of from 70 to 80 degrees. From this time they should be copiously watered at the roots, at least once every day, and once every other day be

well watered over head with a garden syringe, both for the purpose of creating a humid atmosphere within the pit as well as to keep down the various species of insects to which they, in common with all other plants, are liable to be attacked.

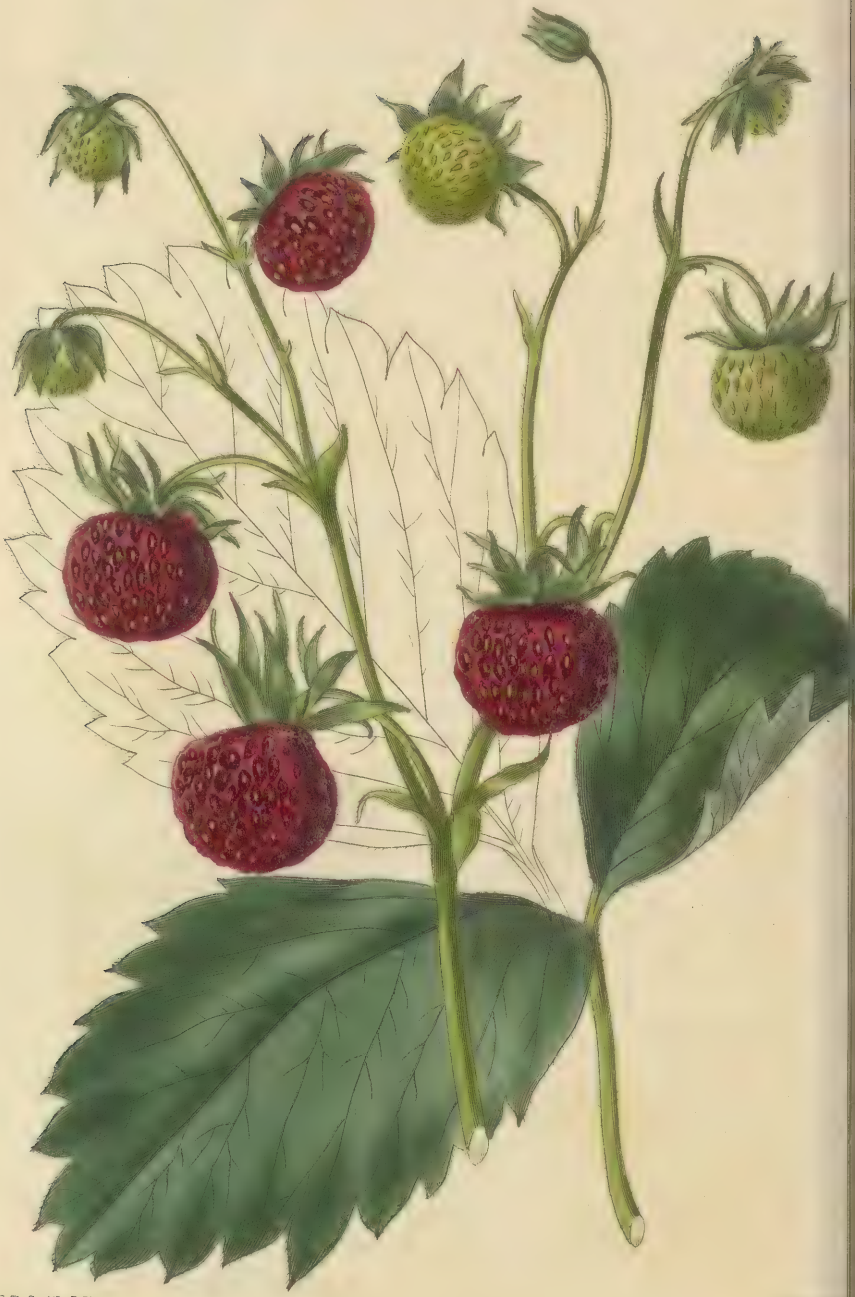
In this high temperature, supplied with abundance of water, they will be found to flower in the greatest perfection. When they have produced all their flowers, or very soon afterwards, they should be shifted into pots one size larger, in which they should remain undisturbed till the following flowering season. They should be kept in rather small pots, for, if over-potted, they do not make such good roots, and consequently do not flower so freely. After this potting, they should be kept rather warm, say from 60 to 65 or 70 degrees, and not much exposed to the air till towards autumn, that they may form and partly perfect their flower-buds, which should be formed before autumn, if it be intended to have them come into bloom early in spring.

The greenhouse and the stove are alike unfit for the culture of these plants; and as it is in these structures in which they are usually met with, the cause of their being seldom found in good health or in a flowering state is therefore easily accounted for.

ON THE PROPAGATION OF NEPENTHES DISTILLATORIA, OR PITCHER PLANT.

This most extraordinary plant is a native of China and the East Indies. They are of very difficult cultivation, and are also rare. In the splendid collections of Lord Milton, the Edinburgh and Glasgow Botanic Gardens, Messrs. Loddige, and Mr. Colville, they are to be seen in high perfection. They require a high temperature and a humid atmosphere, and probably a considerable degree of shade. They are propagated by seeds, which should be sown as soon as ripe, in a pot filled about half-way up with small stones mixed with moss, over which should be placed two or three inches of moss, and about half an inch of finely sifted mould, to form a smooth surface on which to sow the seeds. As the seeds are very small, they should not be covered with mould, but should have a bell-glass placed over them, and the pots placed in a hot-bed frame in a temperature of about 70 or 80 degrees of heat. The pots should be set in a pan of water, which should be kept filled up, and which will, by capillary attraction, render the contents sufficiently moist for the purpose of vegetation.

The Grove-End. Scarlet Strawberry. XV



R. D. Smith, delin. F. W. Smith, S

London, Published by T. Kelly, Paternoster Row. July, 1831.

XXIX.

THE GROVE-END SCARLET STRAWBERRY.

Described in Hort. Trans. vol. vi. p. 159, *and* vol. v. p. 399.—*Figured in Pom. Mag.* p. 7.—*Enumerated in Practical Gardener*, p. 305.—*Hort. Soc. Fruit Cat.*

THIS excellent strawberry is often cultivated under the name of *Atkinson's Scarlet*, and is *The Early Scarlet* of some of the market-gardeners, by which name it is often sold in Covent Garden Market, particularly in a forced state.

This is evidently one of the most valuable of all the class of scarlet strawberries in cultivation, and is ascertained to have originated in the garden of William Atkinson, Esq. of Grove-End, Paddington, in the year 1820. It is to be regretted that the parents of this useful variety have not been recorded; it is, however, probable, that both were of the family of scarlets, at once the most ancient of all our exotic strawberries, and the best. Soon after its appearance, it became much sought after, and through the liberality and zeal of the gentleman who first recognized it, it soon afterwards became established in many of the best gardens in England. Its merits have ever since maintained for it a large share of popular approbation. With the old scarlet, introduced from Virginia above two hundred years ago, it may be considered amongst the best strawberries which we have. It was presented to the Horticultural Society by Mr. Atkinson, and appeared on their table of exhibition of Fruits on the 18th June, 1822.

PLANT, approaching in habit to the Roseberry, from which it however differs in the greater length of its fruit-stalks, which elevate the fruit, rendering it thereby much less liable to be destroyed in times of heavy rains.

The LEAVES are also furnished with longer foot-stalks, which are almost smooth, by which the whole plant, although rather more slender than the Roseberry, appears much taller, and does not shade the fruit so much as the latter kind.

LEAFLETS, small, and of thin texture, very roughly serrated.

FRUIT, spherical, depressed, of full size for a scarlet. Colour, bright light vermilion. Flesh, firm, pale scarlet. Seeds, slightly imbedded, between the flat pips. Flavour, agreeable, rich, slightly acid. Calix, spreading, large, somewhat reflexed. Peduncles, long and slender. Blossoms, large, and according to Mr. Lindley, the petals have a

marked tendency to exceed the usual number, five, being frequently eight or nine.

Where strawberries are cultivated, either for luxury or profit, the Grove-End Scarlet merits a place. In the majority of large families, there is a great demand for forced strawberries at an early period of the year; and as quantity and external appearance are generally more looked to in such productions, cultivators have, for the most part, abandoned the forcing of the small growing kinds, and relied on those of larger size for the supply of this demand. Let it be, however, borne in mind, that no strawberry equals the various varieties of scarlets for the flavour and colour which they communicate to ices and other confectionaries, a circumstance well known in Covent Garden Market, where scarlet strawberries always bring the higher price early in the season.

The Grove-End Scarlet being an excellent forcing strawberry, is preferred to most other scarlets for this purpose. It is also an excellent preserving strawberry, and bears abundantly, ripening fully sooner than the Roseberry and similar early varieties, and continues in bearing longer, as a crop, than most others. A secondary crop is also produced in autumn, from plants forced in spring, and afterwards planted out in a shaded warm border.

In regard to forcing strawberries, the following may be considered as general rules:—Plants should be chosen from amongst the varieties of *Scarlets* or *Pines*, with probably the addition of *Alpines* for variety. Plants from amongst the varieties of *Black Strawberries, Chili's*, (with probably the exception of *Wilmot's Superb*,) *Hautbois*, and *Green's*, should be disregarded. Of the former class, the following may be considered the best, viz. *The old Scarlet, Roseberry, Grove-End Scarlet, Bostock*, and *Keen's Seedling*, which will present variety and quantity sufficient, under good management, for any family. Plants intended for forcing should be strong, well-rooted, allowed plenty of pot-room, (say one plant in a pot instead of three.) The soil should be strong and rich, new from the common, or at least not exhausted by a previous crop. The pots should be carefully drained to admit of superfluous water passing freely off, and in potting, not filled too full of mould, so as to prevent them from holding water. The roots should at all times be protected, both in summer from drought, and frost in winter. Vegetation should be slowly yet gradually put in action, and the better to carry this in effect, pits built on purpose and heated with hot-water are to be recommended the most. The temperature should increase with the progress of the plants, which should be placed as close to the glass as possible, and copiously supplied with water, particularly while the fruit is swelling. Air cannot ever be too abundantly supplied in every stage of their growth.

The Old Brompton Plum

E.D.Smith.delin. E.W.S

London: Published by T. Kelly; Paternoster Row, June 1831.

XXX.

THE OLD BROMPTON PLUM.

Figured in Pomological Magazine, No. 111. *Enumerated in Hort. Soc. Fruit Catalogue,* No. 150.

In both these works it is denominated "Kirke's Plum." We have, with a view to prevent confusion, ventured to designate it after the residence, rather than the name of the discoverer, for this reason, that there is another plum very generally to be met with in the London nurseries under the name of Kirke's Plum; and as it would be impossible to prevent confusion and disappointment, while two very different varieties are cultivated under the same name, the alteration therefore may be considered not altogether unnecessary. We must at the same time confess, that a multiplicity of names tends generally more to confusion than otherwise, and we would be amongst the last to advocate the practice or show the example. As this plum is but comparatively little known, and so far as we are aware, has not been noticed in any other publication than those quoted above, either in this country or on the continent, and as we have acquainted the discoverer of it of our intention, and have obtained his permission, we give it therefore to the public with some confidence as an improvement in nomenclature.

The origin or history of this plum is involved in obscurity, and, like that of many other fruits, opens a wide field for conjecture. We have, however, from Mr. Joseph Kirke, of Old Brompton, the following history of its discovery by him:—Passing in the neighbourhood of the Royal Exchange one day, about twelve years ago, he observed a basket of plums in a fruiterer's window, which struck him as being peculiarly fine; curiosity induced him to purchase a few of them, which he found to be excellent, and, upon a more minute investigation, found that they were of a kind entirely unknown to him. He applied to the fruiterer for its name, and where it might be procured; but, as might be expected, he could obtain no other information than that it was sent from the country by a gardener, who, it afterwards appears, had procured it from another person, who supposed it to be an introduced tree, but from what country or at what period he could give no information.

It is not improbable but that it might have been originally imported into this country; but as it appears to be unknown to foreign writers

on fruits, we may hazard the opinion that it has originated from seed, probably in the garden to which it has been traced, but had escaped observation until its fortunate discovery by Mr. Kirke, under the circumstances above stated.

TREE, hardy, and well calculated for standards, but, like the green-gage, deserving of a wall in cold situations.

LEAVES, scarcely to be distinguished from the green-gage.

FRUIT, above the middle size, roundish-oval, broader at the base than at the stalk; ripens about the first week in September.

FLESH, greenish yellow, firm; flavour, rich. Skin covered with a rich azure bloom, which, unlike that of most other plums, is not easily rubbed off; a circumstance favourable for carriage.

This may safely be considered one of our best plums, being not only a very great bearer, whether planted as a standard, espalier, or against a wall, and is not only handsome, but also in flavour certainly next to the green-gage.

Our drawing was taken from a standard tree in Mr. Kirke's nursery, Old Brompton, and although, under these circumstances, rather less in size than when grown against a wall, is not deteriorated, but probably rather improved in flavour.

ON PRESERVING FRUITS.

A correspondent, in the Gardener's Magazine for the month of May, asserts, that fruits of all sorts may be dried and kept a year or two, without losing their flavour, by wiping them dry and putting them into a cool brick oven, and occasionally, while drying, grating a little sugar over them. We regret that more light has not been thrown on this subject, as the preservation of fruits is a matter of considerable importance, and certainly not much understood.

Another correspondent, in the same valuable periodical, writing on the same subject, says, "Dry them, and pack them in a jar with common salt, putting a layer of salt an inch or two thick over them, and preserving the jar from moisture. This process," he adds, "is adopted in Ireland for preserving cauliflowers, kidney beans, and other delicate vegetables, from the period when they are in season till they come in again, and this it does most completely."

Veratrum Album, or white hellebore, is a plant of a highly poisonous description, the large fleshy fusiform roots in particular are extremely acrid and poisonous, and have been used with considerable success, when pounded to a fine powder and sprinkled on the leaves of plants infested with insects. As the roots are of considerable size and can be increased most readily, we would recommend them to the notice of gardeners, not only to be used in the powdered state, but a strong decoction of their roots, or even of the whole plant, may be made into a beneficial wash for fruit-trees during the spring months. This wash can be most effectually applied with Reed's patent syringe, or with equal effect with Macdougal's new syringe, which is so constructed that the water may be thrown with greater convenience and with equal force on the under side of the leaves as well as on their upper surface. It may be well to caution those unacquainted with the medicinal properties of this plant, that even in small quantities taken internally it is fatal to all animals, and therefore should be used with extreme prudence. It is described in Thompson's London Dispensary as violently cathartic and sternutatory in its effects, and if taken internally as a poison, the best antidote is a strong infusion of nut-galls.

The *V. nigrum* is also poisonous, but less acrid and violent in its effects. Snails and insects will devour the latter, but there is no insect known that will feed on the former.

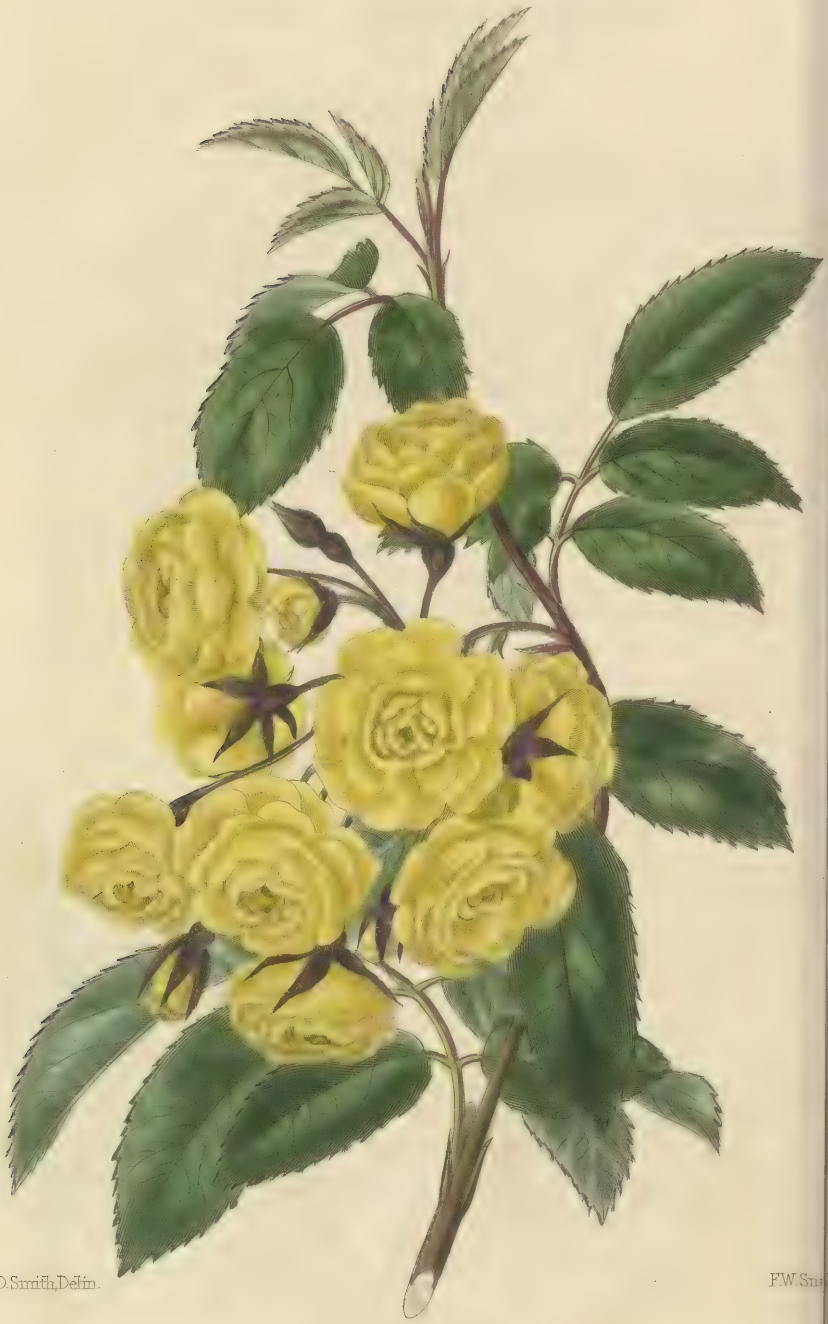
SINGULAR AND DESIRABLE PLUM.

There exists in this country, although little known, a singular and very desirable plum, which is and may justly be called the stoneless plum. It is very small, of an ovate form, and dark purple colour, of a pleasant sub-acid taste, and without any stone or hard covering to the true seed or kernel. It was pointed out to us several years ago in the garden of Lord Douglass, at Bothwell Castle, Lanarkshire, and more recently by Mr. Kirke, of Brompton, from whom we have received trees, which promise to be very productive. That any fruit of the plum kind should be found without a stone is not a little curious; but what is more so, in the present instance, there is a perfectly formed kernel in each fruit, which possesses that aromatic flavour peculiar to the seeds of this and similar fruits. It forms a singular and pleasant addition to our desserts in its perfect state; and when preserved, either dried or in the same way as the green-gage, either whole or as jam, forms an excellent addition to our winter stock of preserves, and is used in various other ways by confectioners. Trees of it may be procured under the name of the Stoneless Plum, from Mr. Kirke, Old Brompton, London.

TO PROTECT RIPE PEACHES FROM WASPS, &c.

The attacks of the wasp, and one or two species of large black flies, are often seriously felt by gardeners. The most effectual remedy we have found is, to procure some wool, recently shorn of the sheep, which should be teazed into thin flakes, and each fruit should be enveloped therewith. The closeness of the texture of such covering, although not so much so as to prevent the action of the sun from ripening and colouring the fruit, is quite sufficient to prevent either of these destructive insects from committing their work of devastation. It is curious to observe with what a degree of caution the wasps will examine fruit so covered; and should they alight upon it, which is seldom the case, their legs and wings get so entangled in the hairs of the wool, that it is with difficulty they can extricate themselves, and if once so circumstanced will seldom, if ever, make a second attempt. The process is cheap, simple, and by no means tedious; but were it even more so than it is, the certainty of preserving the fruit unblemished will more than compensate for the trouble.

Rosa Banksiæ var. Lutea



E.D.Smith,Delin.

F.W.Sm

London: Published by T. Kelly, Paternoster Row. August 1831.

No. 28.

RÒSA BÁNKSIÆ, *var.* LÙTEA.

LADY BANKS'S YELLOW ROSE.

Class 12. ICOSA'NDRIA. *Order* 3. POLYGY'NIA.

Natural Order.

ROSÀCEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
China.	1823.	Bot. Reg. 1105.	Flower Garden-wall.	Any good Garden-mould.
Time of Flowering	*Height.*	*Synonym.*	*Mode of Cult.*	*Duration.*
May and June.			Cuttings and budding on other species.	Shrubby Perennial.

GENERIC CHARACTER.—Calyx, pitcher-shaped, five-cleft, fleshy, contracted at the orifice. Petals, five. Grains (or fruit) bony, hairy, included in the fleshy tube of the calyx.

SPECIFIC CHARACTER.—Leaves, shining and smooth. Branches and fruit unarmed, or that is without spines or prickles.

The GENERIC NAME, RO'SA, from *rhos,* signifying red in Armorican, from whence the Latin Ròsa is derived.

The SPECIFIC NAME, BA'NKSIÆ, in honour of the lady of the late Sir Joseph Banks, a name so associated with natural history as to need no encomium.

GENERAL OBSERVATIONS.—The species of which this is said to be a variety was introduced from China in 1807, and has been very extensively cultivated. The present variety was introduced by Mr. John Damper Parks, in 1824, for the Hort. Soc. In the following particulars it is said by Mr. Lindley, in his *Report upon New and Rare Plants, in Hort. Trans.,* to differ from the original species. "Besides colour, it differs from the double white variety in having shorter, flatter, and more lucid leaves, and in having less disposition to produce side branchlets. The flowers are smaller and not fragrant, and the petals are arranged with greater regularity one above the other: the latter are quite entire. The sepals are very distinctly tinged with red, and are not glandular." It is

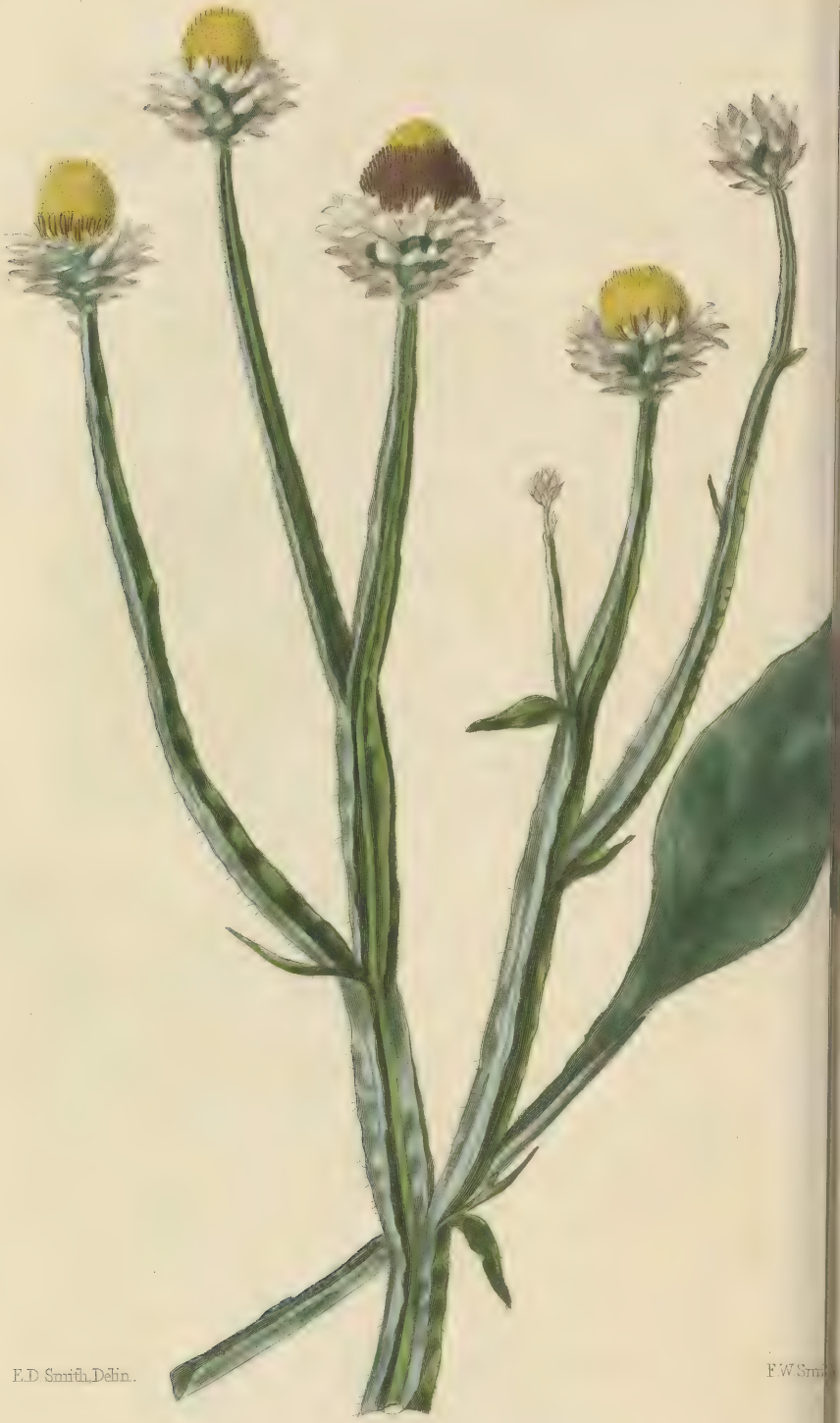
perfectly hardy, and comes into flower with us a fortnight earlier than the common *Bánksiæ,* which is an important merit, as early and late flowering plants must always be considered, in a climate in which winter forms so great a part.

The varieties of *Rósa Bánksiæ* are said to strike from cuttings so freely in China, that the gardeners of that country often graft the better sorts on cuttings of *R. Bánksiæ* and then plant the cuttings so engrafted. The inherent vigour with which this species is possessed enables the cuttings so grafted to root freely, and thus plants are produced as perfect as if the operation had been performed on growing plants.

This variety is the *Wong-mo-ne-he-vong* of the Chinese.

In regard to cultivation, both the varieties of this rose should be planted against a wall, in a warm situation, where they will flower profusely, if not prevented by injudicious pruning, which, however, is very often the case, from a mistaken notion of keeping the shoots closely cut in to the wall, whereas they ought to be laid in pretty thickly, and but as little shortened as possible, as the flowers are produced from the side branches of the preceding year's growth. The white variety gives out a very agreeable perfume, particularly towards evening, somewhat resembling that of ripe raspberries. Either of them planted against an old wall or ruin, that it may be desirable to cover either entirely or in part, and allowed to grow in a natural manner, without any other pruning than merely to the extent of keeping them from becoming too thick or over crowded, will be found to flower abundantly.

Ammóbium Alátum



E.D. Smith, Delin.

F.W. Smi

London Published by T. Kelly, Paternoster Row, August, 1831.

No. 29.

AMMÓBIUM ALÁTUM.

WING-STALKED AMMO'BIUM.

Class 19.	*Order* 1.
SYNGE'NESIA.	ÆQUA'LIS.*

Natural Order.

COMPÓSITÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
New Holland.	1822.	Bot. Mag. 2459.	Flower-Garden.	Peat & Loam.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
June to Sept.	1 to 2 Feet.		Seeds.	Perennial.

GENERIC CHARACTER.—Involucre, imbricated and coloured, like Gnaphálium. Anthers † furnished with two sharp bristles at their base. The chaffy processes of the receptacle distinct. Pappus (the crown of the fruit in this natural order) having a toothed edge.

* Æqualis, the name of the first order of this class, which order contains only such compound flowers as have the florets of the disk and ray, all hermaphrodite, or that is furnished with both stamens and styles. Hence, as there is no difference in respect to the potential perfection of the different florets, the polygamy is said to be equal.

† Anther, or Anthera, from a Greek word signifying a flower, and was bestowed on this part of the fructification by the great Swedish naturalist by way of eminence, from the great utility of the fine dust contained within it. It was the apex of Ray, Tournefort, and Rivinus; and the capsula staminis of Malpighi, and denominated the summit by Withering and other British botanists. Dr. Grew and other old writers called it also the summit, semet, pendent, or tip.

Linnæus defines the anther to be a part of a flower, big with pollen, or farina, which it discharges when ripe. Dr. Barton says, "The anther may be defined a capsul or vessel, destined to produce or contain a substance, the office of which is the impregnation of the germe, or female organ. It commonly forms a part of the stamen, and is usually placed upon the top of the filament. But it must not be forgotten, that in many plants the anther exists without any filament to support it." Of the class of which our present plant forms a part, there are flowers where one anther is common to five filaments, or rather five anthers, which are united into a cylinder, are placed upon five distinct and separate filaments.

SPECIFIC CHARACTER.—There is only one species, the leaves of which are oblong, wavey, and decurrant.*

The GENERIC NAME, AMMO'BIUM, is derived from the Greek *ammos*, signifying a sandy soil, or a place parched with the sun; and *bios*, life. Our respected countryman, R. Brown, Esq., who discovered this plant, applied this name in allusion to the situation in which he found it growing in New South Wales.

The SPECIFIC NAME, ALA'TUM, from the Latin word *alatus*, winged; and applied to this plant in consequence of four or five thin wavey membranous appendages which grow longitudinally up the stems. The stem leaves are formed by the termination of two of these membranes, which commence again immediately above every leaf, and produce in the stem a singular appearance.

GENERAL OBSERVATIONS.—This remarkable plant is yet by no means common in gardens. It is a great addition to the flowers vulgarly called everlastings, few of which are hardy. In a warm, dry, sheltered border this plant succeeds very well; and in the most severe weather a little decayed tan or saw-dust laid over the roots, and about two inches up the stem, will securely protect it. Seeds should be, if possible, procured, as it is apt to be eaten over with slugs, and is not very successfully increased by dividing the roots.

* Decurrens, (from *decurro*, to run,) to run down or along; when the membranaceous edges of the leaf run down the stem below its base, as in many of the thistles.

TO DISCOVER THE ACID OR ALKALINE QUALITY OF PLANTS.

Deep blue paper being moistened with the juice of the plant will, if an acid, become red; if an alkali, green. A vegetable blue will, in general, turn red with acid, (indigo being soluble in acid, as are also the roots of dogs' mercury, *mercurialis perennis,* which, by exposure to the air, will frequently become a brilliant blue, with some exceptions;) hence we observe a red colour developed in vegetables, in which an acid continually acts, as in the leaves of sorrel, vine, and some others, particularly towards the latter stages of their growth. In some sorts of vines this process is much more obvious than in others, some being slightly coloured, while others become of a dark redish purple.

LOVE-APPLE, SOLANUM LYCOPERSICUM, A SUBSTITUTE FOR HOPS.

We are assured that the leaves and stalks of this plant have been successfully used at Sidney, in New Holland, to communicate the bitter principle to beer made from Indian corn, properly malted. If upon trial this should be found to be correct, it would become a matter of considerable national importance to this country, for we see no reason why it should not have a similar effect on beer manufactured from barley. The hop plant, although a native of this country, is (particularly in a cultivated state) liable to many accidents, which the love-apple, although a native of South America, is not; and when we consider the great bulk of herb annually produced from a single seed of the latter, its extreme bitterness, and easy mode of culture, we at least think it worthy of a fair trial.

SUCCESSFUL METHOD OF INCREASING THE SWEET-SCENTED CHINA ROSE, ITS VARIETIES, AND OTHER ROSES OF SIMILAR HABITS.

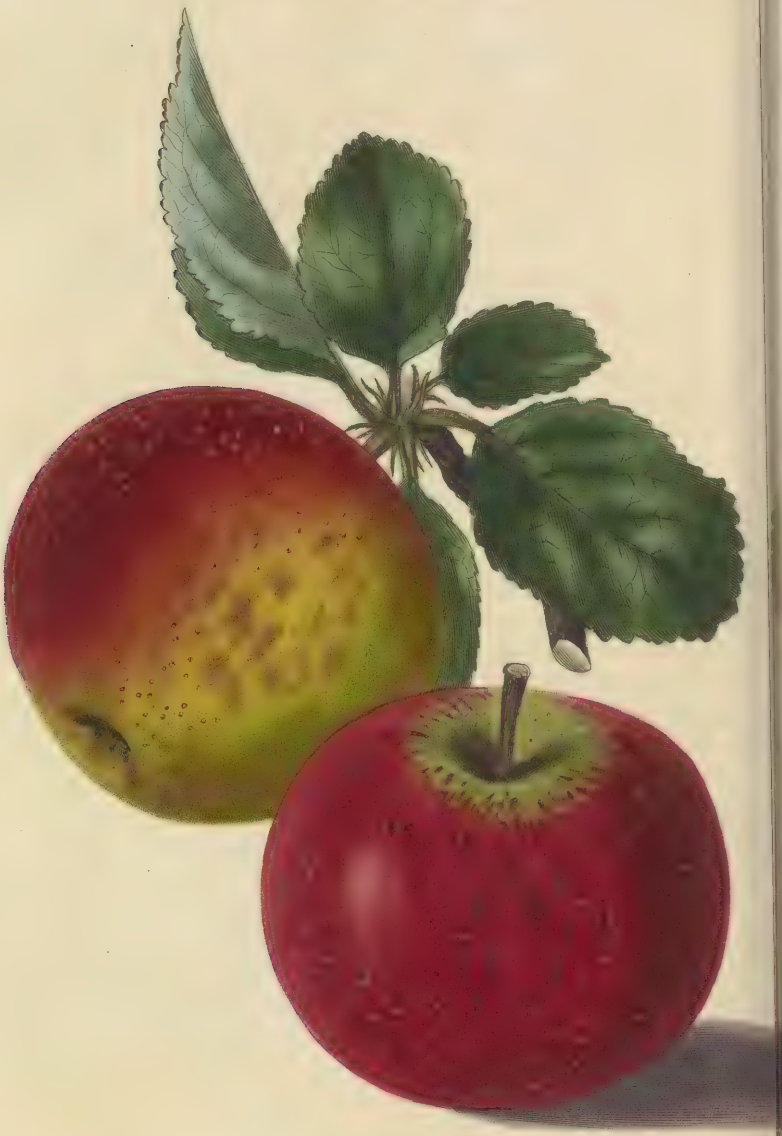
The usual mode of increasing these plants is by budding them on other roses of a more robust growth, and, for certain purposes, this is an excellent way. We have latterly succeeded in propagating them from cuttings, taken off just at the period when the flowers decay. The part chosen for this purpose is the young shoots that have produced flowers; these are taken off closely to the old wood, leaving the leaves entire. The cuttings so made are planted in rich light soil, under a hand-glass, in a

cool shaded situation. They in general begin to grow soon after they are planted, and many of them are fit for taking up to pot before autumn. Such as do not root so readily, remain all winter under the hand-glasses, and may be taken up in April following, when they will be found well rooted, and if then potted and placed in a moderate hot-bed for five or six weeks, will come into flower and form handsome plants. This process answers completely when the object is to have neat flowering plants for pots, and we have reason to suppose that plants so originated will continue to live for several years, if even moderately attended to. When plants of greater size are required, whether to be trained against a wall, trellis, or for standards, the process of budding them on stocks of some of the wild roses is to be preferred.

ACACIA PUBESCENS.

In a recent number of this work we questioned the circumstance of *Acacia pubescens* having ripened seeds in this country. Since the publication of that number, we have had a plant that has produced abundance of ripe seeds. The plant alluded to is in a conservatory, and has attained a large size; it yearly produces abundance of blossom, but never before produced seeds. Suspecting that a greater supply of air was necessary, both to strengthen the plant while in blossom and also to aid in the process of impregnation, whether by the agency of the air alone or assisted by insects, we had the roof of the house immediately above where the plant grew (and which has attained such a height that it is now trained to wires along the top of the house, closely to the glass,) taken off during the time it was in flower. The result is, as was expected, a supply of seeds of a plant the most splendid of its family, and, we may almost add, the most rare, considering it has been so long in this country.

Kirks Scarlet Nonpareil Apple



E.D. Smith delin.

F.W. Smith sculp

London: Published by T. Kelly, Paternoster Row, June 1831.

XXXI.

SCARLET NONPAREIL APPLE.

KIRKE'S SCARLET NONPAREIL.

Figured in Hooker's Pomona, T. 12; *Pomological Magazine*, No. 87. *Described in Hort. Soc. Transactions*, Vol. II. p. 104; *Practical Gardener*, p. 453; *Encyclopedia of Gardening*, p. 691.

The old or common nonpareil has justly been considered one of the most valuable apples ever since the days of Switzer, Langley, &c., the former of whom, writing in 1724, speaks in high terms of its great merits; it was also known and appreciated even before that period.

Our present subject, which may be safely considered an improved variety, although the circumstances of its origin are not exactly known, is by no means a fruit of recent date. After much inquiry, in regard to its history, we can only learn, and for which we are indebted to the kindness of Mr. Joseph Kirke, of Brompton, whose name we presume will be considered good authority, that he has cultivated it for above twenty years, and that he first received it from Mr. Grimwood, the predecessor of Messrs. Malcolm's, the present judicious proprietors of the Kensington Nursery, and that he believes it was cultivated in the latter nursery long before that period.

It is recorded in the Encyclopedia of Gardening, p. 691, and in other works, as having originated from seed in the garden of a small public-house at Esher, a village in Surrey, about the year 1780, whence it is probable that it was received into the Kensington Nursery, which was then, as well as now, celebrated for its fine collection of choice fruits.

Tree, much hardier and less liable to canker and disease than any of the varieties of nonpareils, ripening its wood to the extremities in most seasons and situations, which is not the case with the majority of the others. Round-headed, when grown as a standard. Wood, slender, rather glossy.

Fruit, when in perfection, middle-sized, larger than the old or common nonpareil. When there are too many on the tree, it is much diminished in size. It is a very great bearer, and therefore should be thinned with as much regularity, and to about the same distance, as peaches on a wall, if it be desired to have the fruit in perfection. Fruit-stalk in general

long and slender, as is the case with all nonpareils; sometimes, however, short and thick; but this circumstance may be attributed to some defect or check which they may have sustained in the course of their growth, and probably arising from cold. Such fruit as have stalks of this description are seldom so fine as those whose stalks are more perfect. This observation is, however, not confined to this variety alone, but may be applied to almost every other apple. Colour of the fruit dark, sometimes bright red next the sun, interspersed with many pale brown spots, greenish yellow where more shaded.

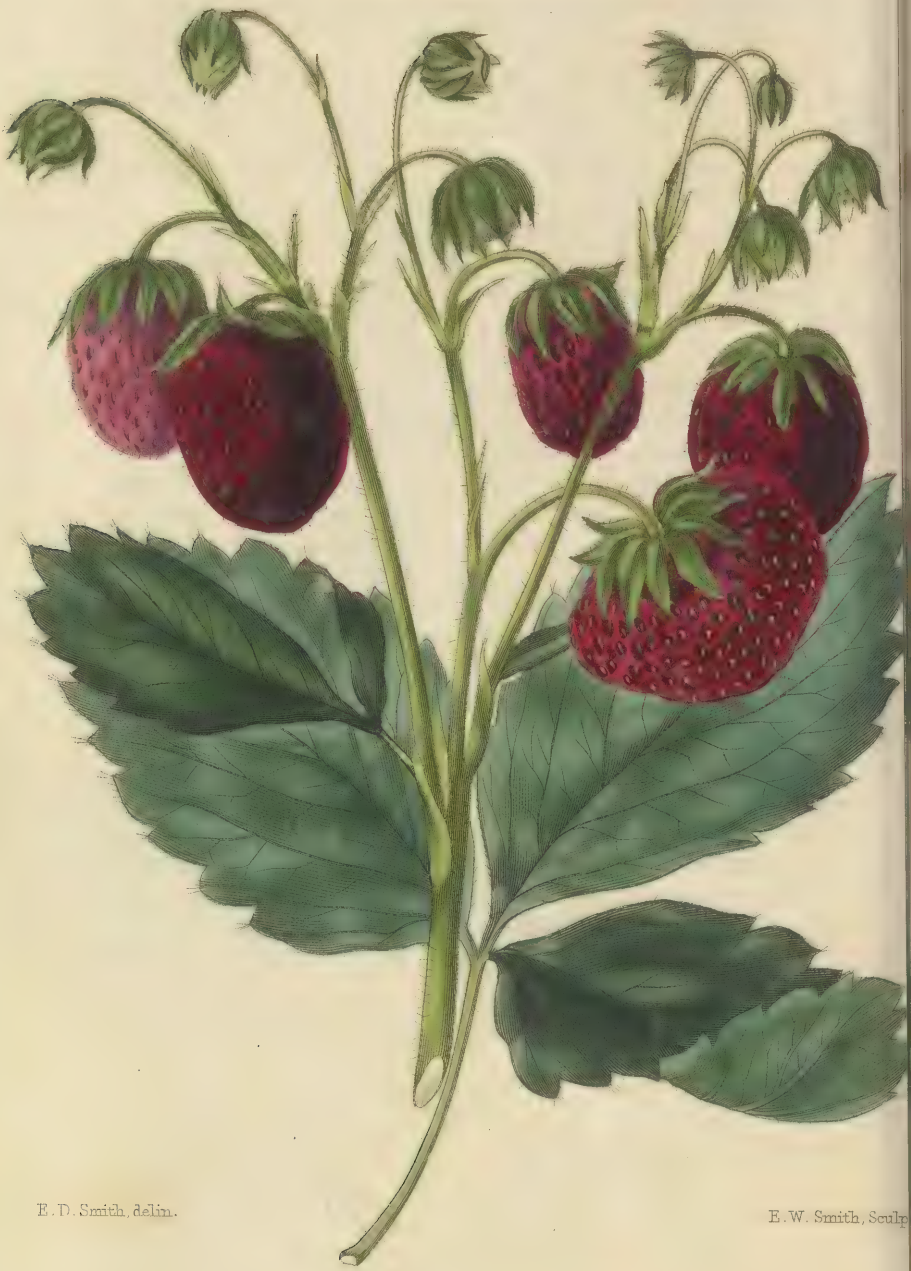
Flesh firm and aromatic, of a yellowish white colour, and possessing much of that peculiar flavour for which the nonpareils are so much esteemed.

Fruit keeps till June, but is in the greatest perfection from the end of December to April; its ripening may, however, be forwarded, like all other fruits, if placed in a warm room as soon as gathered: in such cases it will be fit for the table about the beginning of December, or earlier; and, if kept in an ice-house, or ice-cold chamber, excluded from the action of air, we have no doubt but that it may be kept in excellent condition for twelve months, or longer. It does not, however, keep quite so long as the old nonpareil, which is one of our very best keeping table apples.

So valuable an apple as our present subject deserves to be more generally cultivated and known. In large gardens, several trees of it should be planted, and there is no one so small that should not have at least one of it. In regard to situation, there are few places in England where it will not prosper as a standard or espalier; and as such it is also found to succeed in many parts of Scotland. In the latter country, it would be, in all situations, more profitable and useful as a wall tree than many indifferent peaches and plums, which often occupy the best walls.

Our drawing was taken from fruit grown in Mr. Kirke's nursery, Brompton.

The Downton Strawberry.



E. D. Smith, delin.

E. W. Smith, Sculp.

London. Published by T. Kelly, Paternoster Row, Sep.r 1831.

THE DOWNTON STRAWBERRY.

Figured in Pom. Mag. No. 52; *Hort. Trans.* Vol. III. *Enumerated in Hort. Soc. Fruit Catalogue. Described in Practical Gardener*, p. 506; *Ency. of Gardening; Hort. Trans.* Vol. VI. p. 185.

Cultivated under the names of *Knight's Strawberry, Knight's Seedling, Downton Seedling.*

To T. A. Knight, Esq., President of the Horticultural Society, we are indebted for this very excellent strawberry. It was originated by him at his seat, Downton Hall, in Herefordshire, in 1817, and, in compliment to that zealous horticulturist, bears its name. The female parent of this variety was a very large scarlet strawberry, of no present merit, described under the name of *Knight's large Scarlet,* with various other synonyms, one of which, and by which it was very generally known, was *the female parent of the Downton,* having been raised by W. W. Capper, Esq., near Birmingham, from seeds procured by him from America. It comes into bearing at a late period of the season; a peculiarity which it has communicated to the Downton, as that of its male parent has a part of its aromatic flavour. The old black strawberry, a well-known variety, but little cultivated now, in consequence of its unproductiveness in the generality of soils, was its male parent.

The Downton was exhibited for the first time in 1819, before the Hort. Soc., and since that period has been deservedly very widely disseminated. It is now acknowledged as an excellent bearer, and being naturally a late fruit, that is, seldom ripening until the principal strawberry season is nearly finished, continuing to produce blossoms and fruit for a considerable time; it is valued for lengthening out the season of this esteemed fruit to a late period.

Fruit, large, egg-shaped, having a rather singular long neck under the calyx; sometimes they come, when the plants are luxuriant, of a deformed or cockscomb shape. The berries are not usually produced regularly in regard to size; some being large, others middle-sized, and many small, particularly towards the end of the season.

Flesh firm, scarlet, well calculated for carriage.

Seeds slightly imbedded, scarlet on the side next the sun.

Colour often pale; when fully ripened, dark purplish.

Flavour excellent, when fully ripe.

Leaves very pale green, which circumstance alone distinguishes it at first sight from every other strawberry. Foot-stalks of the leaves very long; leaflets middle-sized, thin, with large teeth or notches round their margins. Foot-stalks of the fruit tall, upright, and strongly supporting the fruit high from the ground. Calyx large, becoming somewhat reflexed as the fruit attains maturity.

This strawberry is found to preserve well; but, from the circumstance of its ripening so late, is seldom used for that purpose, being at that season more valuable for the table. Its greatest fault for this purpose is its want of colour, which is often the case, unless fully exposed to the sun.

We have not had an opportunity of seeing it tried to any extent for forcing, but, judging from its late properties, we conclude that it would not be very well adapted for that purpose.

Our drawing was taken in the Claremont garden.

ON THE CULTIVATION OF GOOSEBERRIES.

Although the gooseberry be a native fruit, it may be asserted that there are few more useful, and certainly none so generally cultivated. The great perfection to which the Lancashire cultivators have brought this fruit is truly astonishing, both as regards the number of varieties and their individual size. In a lately published work on fruits, by Mr. George Lindley, we find a list of names amounting to seven hundred and twenty-two varieties, and which may be considered the most complete list ever published: a large portion of that number we have ascertained varies in weight from twenty to twenty-four, and some even twenty-seven, penny-weights (Troy weight) each.

To obtain fruit of the largest size, young and vigorous plants are chosen, and these should be planted in rich soil, and in a favourable situation. The most celebrated growers train their plants so as to have not more than from five to six branches each, and seldom allow more than two or three berries to grow on each branch, and sometimes only one. The gooseberry prospers best in a rather humid atmosphere; and hence the Lancashire and Scotch gardeners excel all others, the climate being more favourable than in the southern parts of the island. On the continent, in many parts, this fruit is rarely to be met with, and as we travel towards the south of Europe, so little is it known, that they have not even a name for it. The best cultivators of this fruit practice frequent watering in dry weather, and partial shading from the sun, particularly during the hottest part of the day, after the fruit has attained something above half its size; we in the south should, therefore, attend to this practice in a very particular degree. The larger growing sorts, for the most part, have a tendency to grow close to the ground, in consequence of which the fruit is very liable to be spoiled in times of heavy rains, if the branches be not supported by some means or other. We have practised an old, but what we consider an eligible mode of training them, namely, as espaliers; by which means the fruit is exposed to the light, sun, and air; the plants occupy much less space, (a consideration in small gardens,) and by this means they are not only more conveniently shaded when necessary, but the latter kinds may be preserved to a late period, by being covered with nets, a process not so conveniently adopted when they are grown in the ordinary manner.

ON STOPPING VINES FROM BLEEDING.

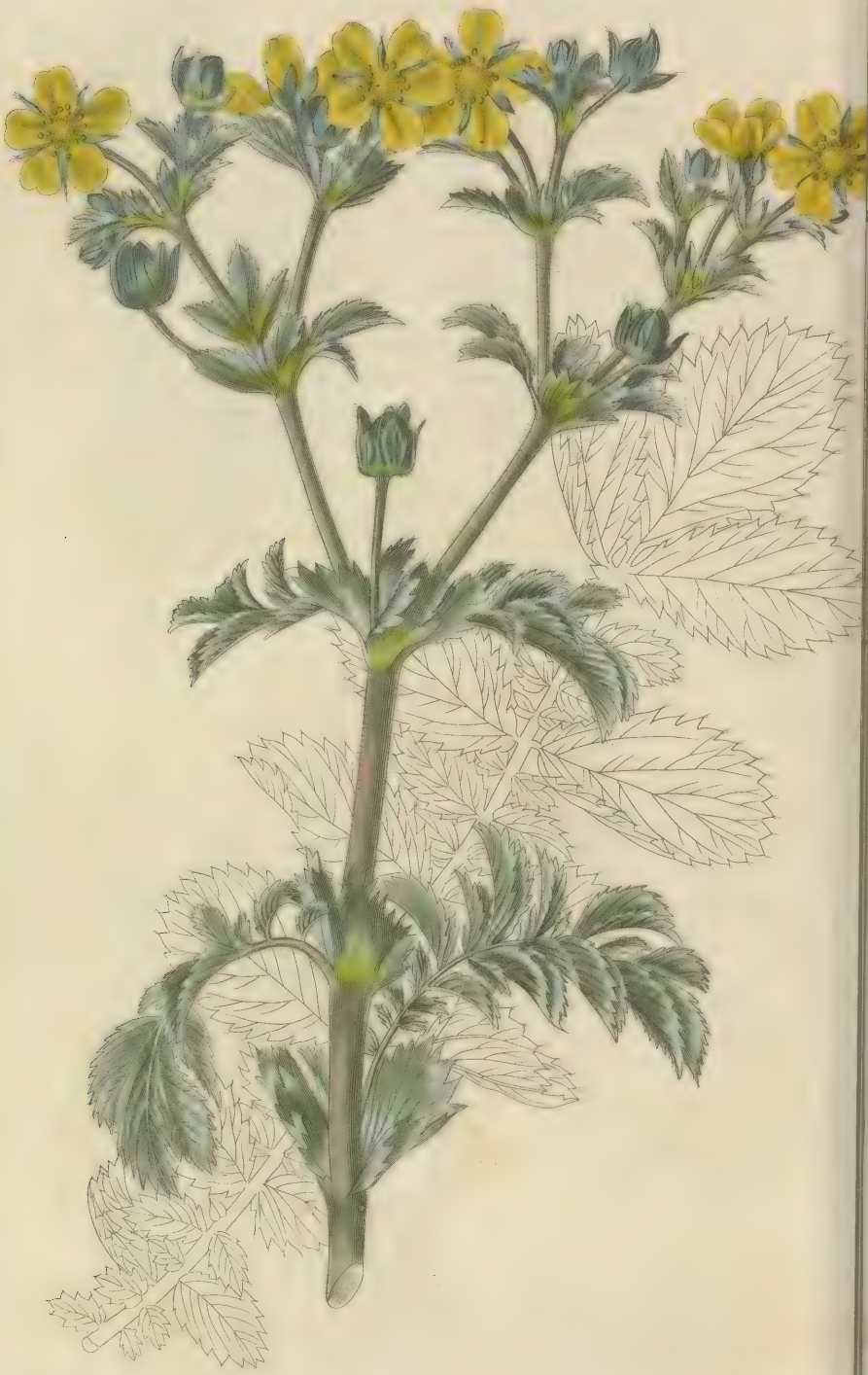
The following simple, and we would say efficacious mode to effect this purpose has been communicated by Mr. M. Saul, of the Pomo-

logical Garden, Lancaster, to the editor of the Gardener's Magazine, for August:—"Let the part bleeding be forced into a sound potato; for if any of the skin of the potato has been rubbed off, the sap of the vine will soon find its way to escape, and the vine will continue to bleed; but if the potato be free from any bruise, it stops the vine from bleeding. I have been much amused in proving this by experiments. By chance I observed one of my vines bleeding very much: a potato was lying on the floor, into which I had stuck two cuttings of apple-trees, intended for grafts; I took the cuttings out of the potato and forced the bleeding end of a vine branch into one of the holes, and, to my great surprise, I soon saw a drop appear at the other hole. I then removed this potato, got another perfectly sound one, and forced the end of the vine-branch into it: this I found to stop the bleeding. I then cut a luxuriant vine, to try it fairly, and found it again quite effectual. I then cut the skin of the potato in five different places, and found that the sap of the vine made its way out at those five places."

The perusal of the above communication led us to refer to "Hale's Vegetable Statics," a work which, although upwards of a century old, must be read with interest by every person interested in the economy of vegetation. The third chapter of that work is dedicated to "experiments, shewing the force of the sap in the vine in the bleeding season," and which we would recommend to the careful perusal of reading gardeners. After a variety of curious experiments, to ascertain the force of the sap, he states, that he has proved it to be "nearly five times greater than the force of the blood in the great crural artery of a horse; seven times greater than the force of the blood in the like artery of a dog; and eight times greater than the blood's force in the same artery of a fallow doe." In regard to Mr. Saul's experiment, the only doubt we have would be that the force of the ascent of the sap, particularly in a large branch, might be sufficient to displace the potato, if it be not secured to the vine, to prevent such an accident. We have experienced in our practice, and have also read somewhere, (but at the moment cannot give our authority,) that a piece of bladder securely fixed over the end of a shoot so amputated, has burst from the pressure of sap when in its greatest vigour of ascent.

Potentilla Spléndens

XI



F.D. Smith Delin.

F.W. Smith, Scul.

No. 30.

POTENTIL'LA SPLÉNDENS.

SPLENDID CINQUEFOIL.

Class 12.	*Order* 3.
ICOSA'NDRIA.*	POLYGY'NIA.†

Natural Order.

ROSÀCEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Nepal.	1822.	Sweet's British Flower Garden.	Flower-Garden.	Peat & Loam.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
July & August.	1 Foot.	Lineata.	Seeds.	Perennial.

GENERIC CHARACTER.—Calyx, ten-cleft. Petals, five. Grains, roundish, naked, and rough, fixed to a small dry receptacle.

SPECIFIC CHARACTER.—Leaves, interruptedly pinnated.‡ Flowers, dichotomous,§ corymbose.|| Sepals,¶ ovate, acute. Flower-stem erect, nearly simple. Whole plant thickly covered over with a silvery silky down.

The GENERIC NAME, POTENTIL'LA, was applied to this genus by Linnæus, from *potentia*, power, from its supposed potential virtues in medicine; these appear, however, to consist of only a slight vulnerary quality.

* ICOSANDRIA. (See No. 1.)

† POLYGYNIA, from the Greek (*polys*, many,) and (*gyne*, a woman,) many females or styles. The name of an order in some of the lower classes in the sexual system. In the present instance it is applied because there are many styles or females in the flowers of this order.

‡ Interruptedly pinnated (from *interrumpo*, to break off). Pinnated leaves are so designated when some of the folioles are smaller than others, in an irregular manner.

§ DICHOTOMOUS, a stem that is divided, or that ramifies in pairs.

|| CORYMBOSA. (See No. 2.)

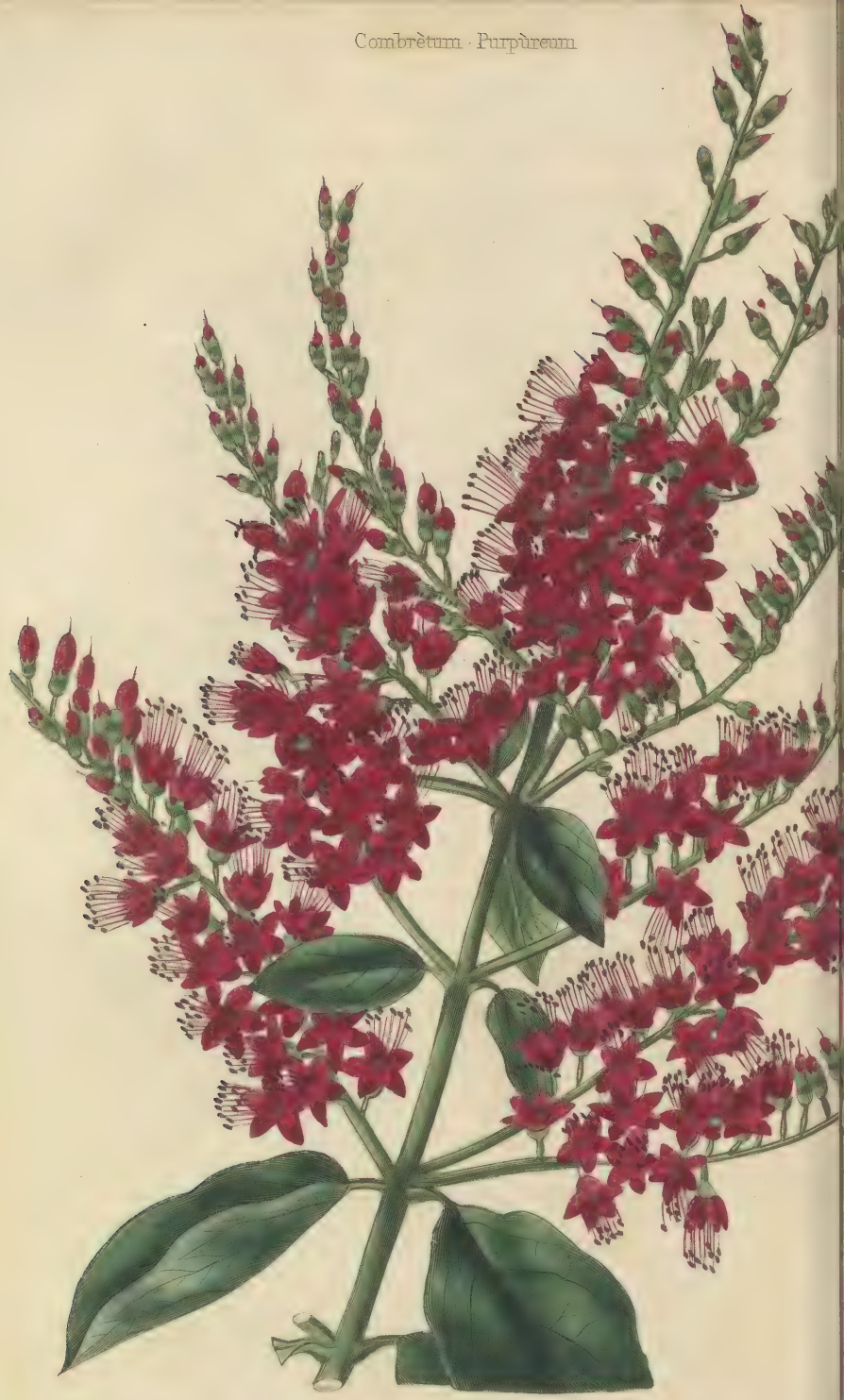
¶ SEPALS. (See No. 7.)

The Specific Name, Sple'ndens, from *splendens*, glittering, splendid, beautiful.

General Observations.—The genus *Potentilla* has had some very interesting species added to it of late years, particularly from the Nepal mountains; one of these species is our present subject. The whole genus is pretty, and, in addition to their other merits, are all extremely hardy, and may with propriety be introduced into every flower-garden. They are all herbaceous, with the exception of two, which are very dwarf shrubs. Our present subject, at first sight, has a striking resemblance to one of our indigenous species, *P. Anserína*, which is remarkable for the silvery whiteness of its foliage, which is eaten by geese, (as the name seems to imply,) and the roots were once eaten by the country people in some parts of England, but we suspect that they are too astringent to be much indulged in.

The prevailing colour of the flowers in this genus is yellow, and the great majority of them are natives of different countries in Europe. They are all ornamental and of the easiest culture, ripening seeds and increasing by dividing at the root most freely. They vary in height from six inches to two feet, but that height includes the flower-stalks also, the proper plant not, with few exceptions, being above six inches high. Some of the species come into flower in April, and others last till October. It appears that the earliest introduction to this country of the exotic species was in 1640, when *P. grandiflora* was introduced from Siberia. Later additions have been made to this genus by the all-confusing system, as it has been termed, of creating hybrids, the most handsome of which, that has come under our observation, is that of *P. Russelliàna*, originated by Mr. William Russell, nurseryman, Battersea. Several others have also appeared, but have not been brought out with so much success.

Combrètum · Purpùreum



F.D.Smith, Delin.

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London: Published by T. Kelly, Paternoster Row, Oct. 1831.

No. 31.

COMBRÈTUM PURPÙREUM.

PURPLE COMBRETUM.

Class 8. OCTA'NDRIA.

Order 1. MONOGY'NIA.

Natural Order.

COMBRETACEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Madagascar.	1818.	Bot. Mag. 2102.	Stove.	Rich Mould.
Time of Flowering	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
During Winter and Spring.	10 to 30 Feet.		Grafting on the Roots.	Shrubby Climber.

GENERIC CHARACTER.—Calyx, four-toothed. Petals, four, inserted in the calyx. Stamens, very long. Capsuls, four-angled, one-celled. Seed, one, of an oblong shape.

SPECIFIC CHARACTER.—Leaves, ovate, acute, placed opposite. Racemes, one-sided, bracteate. Bractes, shorter than the peduncle. Flowers, decandrous.

The GENERIC NAME, COMBRE'TUM.—The derivation of this name is not satisfactorily known. It was employed by Pliny; but the plant of that naturalist, although a climbing one, could have no reference to the present.

The SPECIFIC NAME, PURPU'REA, is not very appropriate, as the flowers are certainly more of a deep scarlet than purple; the name *coccineum* would be therefore much better.

GENERAL OBSERVATIONS.—The whole of this genus are natives of the tropics, and therefore require, in a state of cultivation, to be kept in a stove, of which they are, while in flower, the ornament and pride. They succeed best when not confined within the narrow limits of a pot; still, if planted out in a border, where their roots will run unrestrained, they are apt to become too luxuriant, and therefore seldom flower. A very judicious method is, to plant them into deep wooden or slate boxes, capable of containing from three to four cubic feet of rich mould, and

which may be plunged in the bed of the stove, or otherwise, according to convenience, or the internal arrangement of the house.

It may be considered an extravagant idea, but of the practicability and effect there can be no doubt, were houses constructed either with curvilinear or common span roofs, dedicated entirely to the culture of tropical climbers: our present subject, several others of the same genus, with *Quisquális indica,* whose flowers are both beautiful and extremely fragrant; most of the genus *Passiflora,* whose flowers and fruit are both splendid and agreeable; the curious *Aristolochiás,* whose flowers, although beautiful, are extremely inodorous; with several species of *Bignónia, Echìtes, Thunbérgea, Ipomæ'a,* &c. &c. A stove furnished with those and similar plants would have an imposing appearance; and from their variety and dissimilarity, their various periods of flowering, &c. it might be fully expected that such a house would at all times of the year be in perpetual verdure and bloom.

Many rare, curious, and beautiful tropical plants, particularly those termed parasitic, almost the whole family of ferns, many of them of gigantic growth, would be found to flourish in such a house, under the shade afforded them by the climbing plants, which of course would be trained near to the glass, as they require both light and air. A house so furnished would far exceed any thing of the kind hitherto seen in this country, and might still further be improved, not only in appearance but also in utility, by having handsomely designed fountains playing in different parts of it, which would increase the humidity of the atmosphere, so very necessary in the culture of tropical plants. Such houses might be heated by steam, or hot water: if by the latter process, we consider it practicable to apply part of the water so heated to supply the fountains, which might be made to deliver the water again to the boiler; if by steam, it would be no difficult matter to have the water heated in the fountains by a branch pipe, and the water forced back to the reservoir by means of machinery under the floor.

Our drawing was taken from a plant in the stoves at Claremont.

to the roots of many of the rarer or tenderer exotics, Mr. Wood has selected, having an easterly exposure, the side of a steep sloping bank, which he has cut out into steps like the stage of an ordinary greenhouse, upon which his plants are arranged.

The advantages of this mode are, FIRST, that the plants stand upon a bottom not liable to be affected by excess of drought or moisture; to the former of which they would be liable if placed on wooden stages, as long practised at White Knights, as the air circulating freely round the pots on all sides dries up the best and most useful fibres, which are always next to the inner surface of the pots; and to the latter they are always liable, in a greater or less degree, when placed on a level surface, which, in times of heavy or continued rains, is, however well it may be prepared, too damp for them, particularly towards autumn.

SECONDLY, the plants are better exposed to the light, air, and sun, while their roots are partially shaded by each other.

THIRDLY, an artificial exotic shrubbery may be formed by this method of arrangement, and, with little ingenuity, be made to produce an effect in keeping with that of the surrounding scenery, however richly or harmoniously disposed.

Next to this mode of arrangement, we would say, for large collections, dispose of them so as to form an entirely exotic flower-garden of an extent of surface proportioned to the size of the collection. To suit this idea to the rationale of good culture, divide them into sections, not exactly of species or natural orders, but in groupes, according to their various constitutions, if such a phrase be admissible. Thus, *Oranges, Lemons, Camellias, Laurus,* and *Pittosporum,* &c. might be formed into groupes as evergreens; while the succulent *Cactus, Mesembryanthemum,* &c. might be congregated into groupes, elevated so as to be free from the ill effects of damp, or placed in artificial rock-work.

The most delicate species of all should be so arranged that they might be conveniently protected from the excesses of heat, cold, or moisture. To a very considerable extent the pots might be partially or wholly hidden, by being neatly covered with moss, which would render the appearance of the whole more natural, while at the same time the roots would be kept in a more equable medium, as regards both temperature and humidity. Plunging the pots in the ground, unless those of the most robust nature, is not to be recommended.

An arrangement of this description would of course be an exotic flower-garden in miniature, and only of a few months duration; but if its various parts be kept in bearing to one another, the effect would be imposing in the extreme.

NEW CE'REUS.

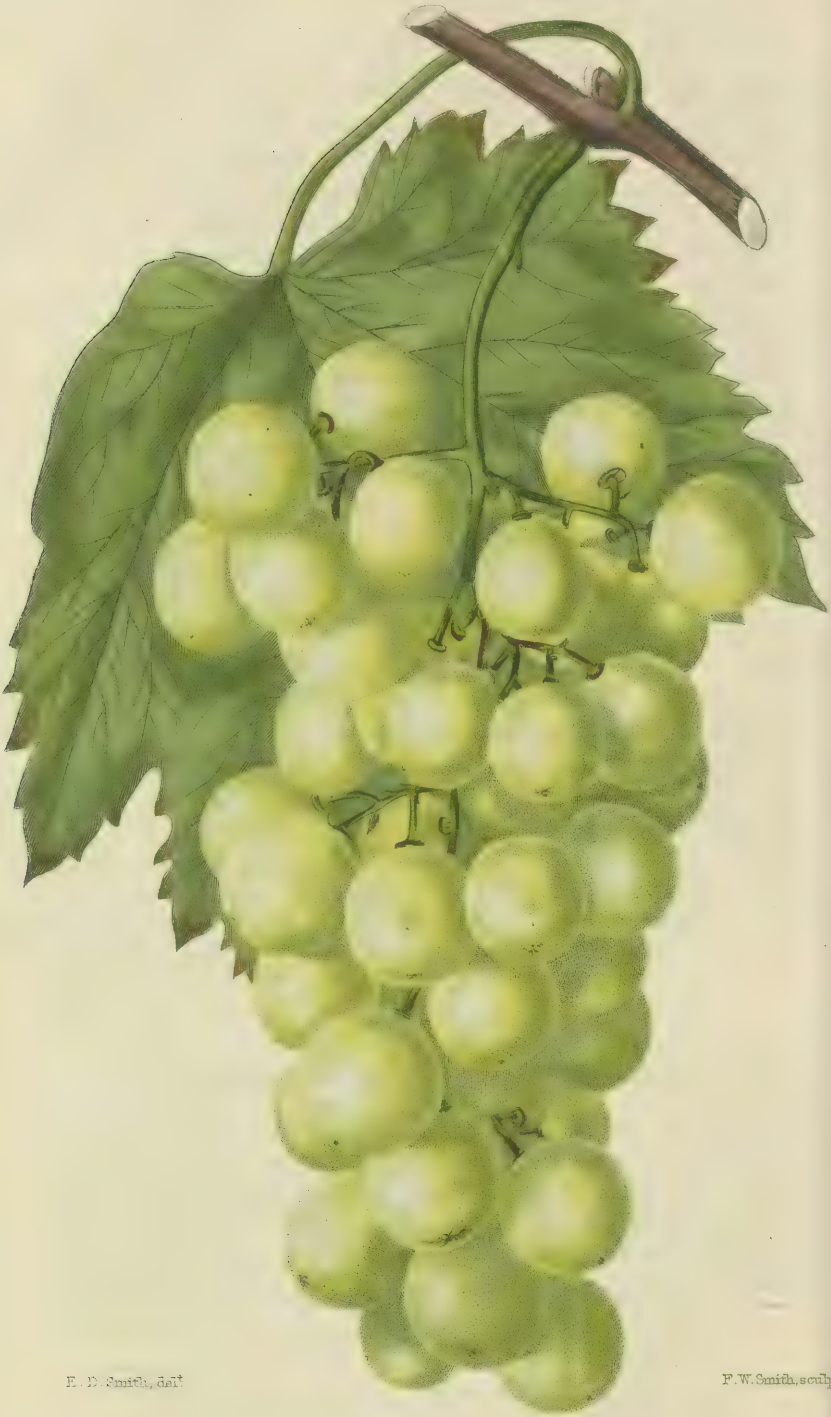
We have been favoured by Mr. E. D. Smith, botanical artist, with the sight of a beautiful drawing of an undescribed *Cáctus*, or *Cèreus*, imported by Mr. Rolles, of the King's Road. The plant is described to have been from three to four feet in height when perfect; but owing to some accident sustained during its passage to this country, the greater part of it is decayed, the crown or top only remaining. This has, however, under the excellent management of Mr. Rolles, been preserved, and is now furnished with roots, and likely to do well in his collection. It lately produced two splendid blossoms, somewhat resembling the *Cèreus grandiflòrus*. While in its present state, the plant resembles very much *Cáctus depréssa*, and, if we mistake not, has seventeen sides or angles, a greater number than that of any other species hitherto introduced. Both Mr. Rolles and Mr. Smith, who equally are highly skilled in this natural family, consider that its flowering so soon after its introduction is to be ascribed to the summit of the plant having been thoroughly ripened previously to its leaving its native country; a circumstance we think highly probable.

COMBRE'TUM PURPU'REUM.

This splendid stove climber is generally considered difficult to increase, we have, however, lately been much gratified by seeing it in the splendid collection of Mr. Colville in great abundance and in full bloom, growing in small-sized sixty pots. We are informed by Mr. Reith, the industrious cultivator in that establishment, that he succeeds in striking it by cuttings of the half-ripened wood with great certainty, and that, with him, in six or eight months afterwards, it almost invariably comes into blossom, when the plants are not more than ten or twelve inches in height.

ON THE ARRANGEMENT OF GREEN-HOUSE PLANTS DURING SUMMER.

We were lately struck on visiting the gardens at the Deepden, near Dorking, with the manner in which Mr. Wood, the intelligent superintendant, had disposed of his collection of green-house plants. Instead of selecting the back of a wall or hedge in some out-of-the-way corner, (an almost constant practice,) or placing them upon a level surface, which, particularly in damp seasons and situations, is so very injurious



E. D. Smith, del.t

P. W. Smith, sculp.t

London Published by Thomas Kelly 17, Paternoster Row, November, 1 1831.

THE WHITE OR COMMON MUSCADINE GRAPE.

Figured in Pom. Mag. No. 18. *Described in Ency. of Gardening; Practical Gardener*, p. 496; *Hitt's Treat.* p. 307; *Forsyth's Treat.* 5th Ed. p. 173; *Speechly's Treat.* No. 27. *Enumerated in Hort. Soc. Fruit Catalogue*, No. 97.

We have adopted the above name, as being that by which it is most generally known amongst practical men.

This is the common Muscadine of Pom. Mag.; the White Muscadine, or Chasselas, of Speechly; the White Muscadine of Hitt and Miller; the Amber Muscadine of Pract. Gard.; the Chasselas Blanc of many gardens; and supposed to be the *Bursarobe* of Parkinson.

It is not the Royal Muscadine of Miller, which appears to have been the Old White Muscadine of Parkinson, a much larger growing grape. Neither is it the Chasselas de Fontainbleau, although cultivated in many gardens as such; for although the fruit of the latter exhibits little difference in appearance from the common Muscadine, still they differ so much in their foliage as to induce the best pomonologists to regard them as two distinct grapes. The foliage of the Chasselas de Fontainbleau is downy on the under side, whereas the leaves of our present subject are quite smooth. The Royal Muscadine *D'Arboyce* or *small white Portugal* grape of Speechly, is not the same as this, and although often cultivated under the name of Royal Muscadine, they are in general confounded together.

Bunch, middle-sized, averaging about six inches in length, and four in breadth at the shoulder, occasionally, however, exceeding this size considerably.

Berries, middle-sized, quite globular, hanging rather loose but regular; when approaching to ripeness, of a watery green colour, but becoming yellowish green when fully ripened.

Flesh, firm. Flavour, when ripened, sweet, but not high.

Leaves, middle-sized, slightly lobbed; smooth on both sides, pale green, attaining a yellowish hue towards autumn.

Wood, slender, and long jointed.

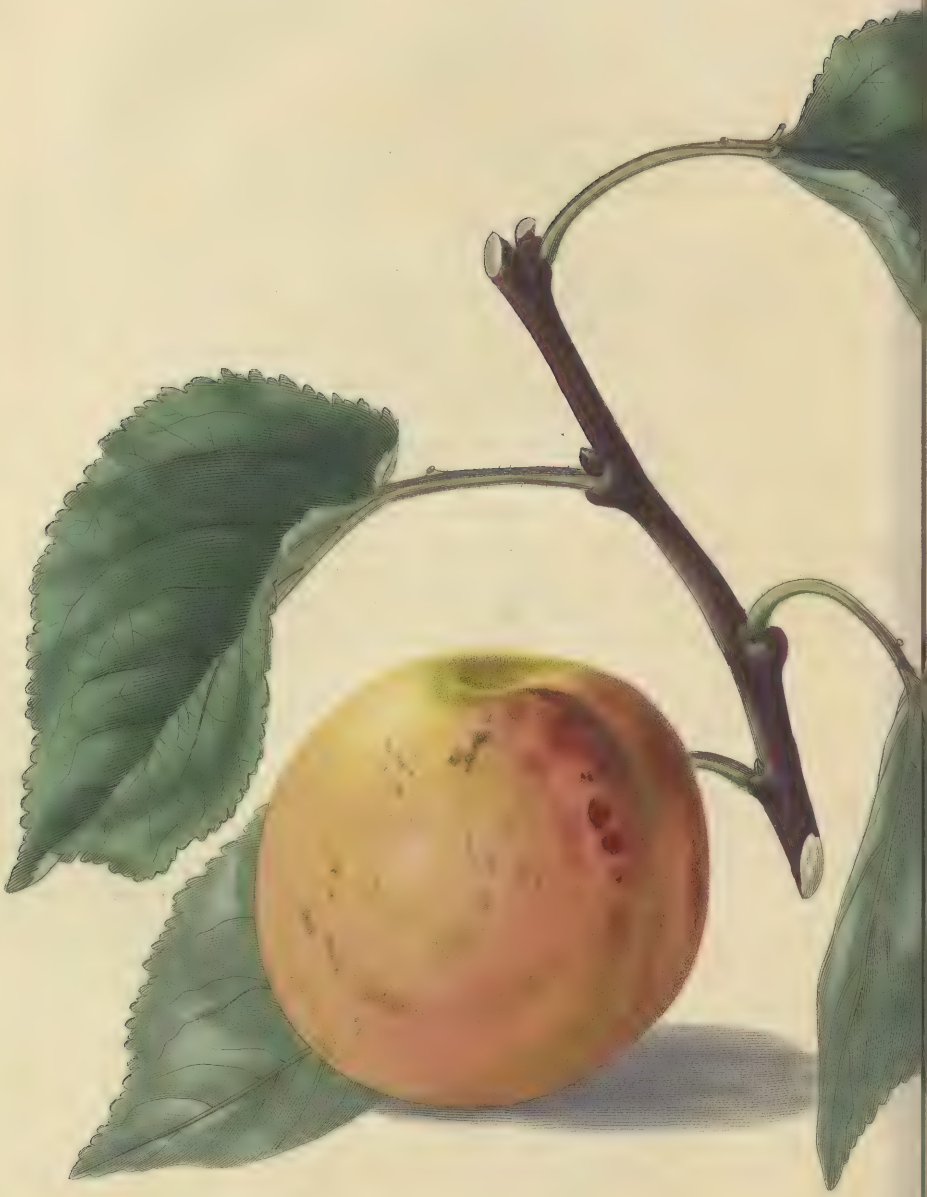
This is one of our oldest varieties of grapes, and has been cultivated for an unknown period of time. Some have dated its introduction in 1660, and supposed it to have been brought by Sir William Temple.

This, however, appears to be incorrect. It is also one of our most common sorts, and has been long numbered amongst those few grapes that will ripen in our climate without artificial aid. It ripens in the latitude of London, in most seasons, upon southern walls, about the middle of September, and continues hanging in tolerable perfection till destroyed by the autumnal frost. Various means have been devised for keeping the grapes in perfection on the tree, and also to aid their ripening; the principal of which are well known.

Instances sometimes occur of this vine ripening its fruit in the vineyard fashion, and in favourable situations and warm seasons may be so cultivated, as a matter of curiosity if not of advantage. In the nursery of Mr. Joseph Kirke, at Brompton, part of which was the garden of the Protector Cromwell, there is an old wall, 220 yards in length, covered with this vine, and in front of it is cultivated on dwarf bushes the same vine, which latter yearly produces vast crops, and makes excellent wine. The grapes on the wall almost invariably ripen in high perfection, and are of good size, both in bunch and berry.

It is the best white grape for the purpose of English wine-making, and it is very probably one of the varieties that were cultivated for that purpose, when the seasons were either more propitious for the purpose, or the taste of our forefathers less nice in the flavour of this esteemed beverage.

Speechly recommended it as a hot-house grape, but subsequent experience has proved it very inferior for that purpose. The foliage is too delicate, while young, for the temperature of the pine-stove, and the embryo berries are often completely destroyed before they come into blossom, from the condensed steam falling on them and being suddenly dissipated by the morning's sun; a circumstance of frequent occurrence, and, as far as we know, not generally observed.



E.D. Smith, del.t F.W. Smith, sculp.t

London, Published by Thomas Kelly, 17, Paternoster Row, November, 1, 1831

THE MOORPARK APRICOT.*

Figured in Hooker's Pomona Londinensis, No. 9. *Described in Ency. of Gardening*, p. 720; *Practical Gardener*, p. 484; *Lindley's Guide to the Orchard, &c.* p. 131; *Forsyth's Treatise*, 4th Edit. p. 4.

This is decidedly the best apricot in cultivation, and if really distinct from the peach apricot (which has long been a matter of doubt) we would say that it should be cultivated in preference to all others.

The synonyms of this excellent fruit are, *Anson's, Temple's, Dunmore's Breda,* and often the *peach apricot.* The former of these names, according to Hooker, in Pom. Lond., originated from its being supposed to have been introduced from the Netherlands, by Lord Anson, about 1700, and cultivated in his lordship's gardens at Rickmansworth, in Hertfordshire. This name is prevalent in Norfolk, and partially in some of the adjoining counties, but that of Moorpark is universal throughout the British Empire.

The name of *Temple's apricot* originated, as well as that of Moorpark, from the circumstance of its being said to have been introduced into this country by Sir William Temple, and cultivated in his gardens at Moorpark, in Hertfordshire, where it is ascertained to have existed for more than one hundred and thirty years. This latter account of its introduction seems to be the most authentic.

FRUIT, large, round, deeply hollowed at the base, and somewhat compressed on its sides, one of which is considerably swelled more than the other, which gives it rather an oblique appearance. Ripens, on walls, about the beginning of September.

FLESH, firm, bright orange, separating freely from the stone. Skin, pale yellow on the shaded side, deep orange marbled with brown on the side most exposed to the sun. Stone rugged. Kernel bitter.

Recent investigations have discovered a pervious passage in the stone, the aperture of which is in a small groove on the thin side, near its base.

* The name, Apricot, is said by some to be derived from *apricus*, open and exposed to the sun; by others from *præcox*, early ripe; but the most probable derivation is that the name is a corruption of its Arabic name, which is written, in European characters, *barkuk*, *berkach*, or *berikach*. Our old English writers, such as Turner, Gerarde, &c. wrote it *abrecok*, *abrecoke*, *aprecock*, and *aprecox*. Kyle, of Moredun, is the first gardening author who wrote it apricot.

The peach apricot,* if really a different variety from our present subject, is not easily distinguished from it, and so near do they approach each other in character, that, in our opinion, they are not worth cultivating in the same garden under different names; neither can it be considered a disappointment should the one be planted for the other. Mr. G. Lindley, in his excellent work recently published on fruits, however, considers them as distinct, and observes, "The peach apricot is supposed by some to be the same as the Moorpark, and indeed it has all its leading characters; but an extensive cultivation of it for more than twenty years has convinced me to the contrary. Its wood is similar, but more gross, less firm, and the tree more tender."

The peach apricot is said to have been introduced from Paris, in 1767, by the Duke of Northumberland.

The Hemskirk apricot (a modern variety) approaches also near to the Moorpark, but is much smaller, and rather earlier in ripening.

The Moorpark may be considered amongst the more tender of its family, and, therefore, situation should not be overlooked in planting it. In the southern parts of England, and in some of the more sheltered situations in the midland counties, the Moorpark, in some seasons, ripens its fruit on espaliers and standards, and when such is the case, the fruit is much superior in flavour, although less in size, to those grown on trees trained to walls.

Our drawing was taken from a fruit grown in the gardens of the venerable Countess of Tankerville, at Walton, and it is but justice to remark, that the wall of Moorpark apricots in that garden, which is of considerable length, is probably not to be surpassed by any in the kingdom.

* It may be expected that we should offer some explanation for thus having altered our opinion since the publication of the Practical Gardener, where they are described, page 484, as follows:—"These two fruits resemble each other, but the leaves and characters of the trees are very different." Subsequent examinations and inquiry have induced us to consider them as one and the same fruit.

ON THE CULTIVATION OF APRICOTS.

Apricots are, in general, increased or propagated by budding on plum stocks of different sorts. The *Breda* and *Brussels* being best calculated for standards, are usually budded on stocks of the St. Julian plum, by which means clean and strong stems are obtained.

For general purposes, and we believe in most nurseries, stocks of any of the plum kind are used indiscriminately; this, however, is objectionable, in as much as some of the more delicate kinds of apricots (our present subject for instance) are found to become diseased, and consequently short-lived, when so managed. Mr. Knight, in one of his valuable papers in the Transactions of the Horticultural Society, recommends budding the Moorpark on apricot stocks, and by that means, he asserts, that he procures healthy and durable trees. Mr. G. Lindley, a writer of the greatest respectability and extensive practical information, says, "The Moorpark is, for the most part, budded on the common plum, on which it takes freely; yet I am persuaded," says he, "that if it were budded on the muscle, the trees would be better, last longer in a state of health and vigour, and produce their fruit superior, both in size and quality." In regard to these opinions, we conclude that either the muscle or apricot stock is decidedly the best for the finer and more delicate kinds of apricots, but that both will not alike succeed in the same soil is, we think, equally true. In rich and highly cultivated soil, the apricot stocks will produce fruitful and healthy trees; while, in indifferent soils, particularly chalky or gravelly, the former would be preferable, being of a more hardy nature, and less liable to gum and canker, to which the latter is liable in bad soils.

The common varieties succeed well on the common plum stocks, as also on the Brussels; but the Brompton stock, although much used, is by no means to be recommended, as trees so produced are of the most temporary nature.

The apricot, although in many respects similar to the peach, is nevertheless a much hardier tree, and will succeed in situations where the latter will not. The apricot will succeed, in good seasons and protected situations, as standards, whereas the peach rarely comes to perfection by that mode of treatment. The peach is exceedingly liable to diseases and the attacks of insects under almost all circumstances; the apricot is much less so in the former case, and in the latter seldom annoyed. The peach is at present considered the most valuable fruit for the dessert; while the apricot, for the various uses of the confectioner, has few equals. For-

merly the apricot appeared on the tables of the great in its natural state; modern refinement, however, has for the most part allotted it a place only amongst preserves, in which it appears in various forms.

The diseases of the apricot are for the most part to be traced to careless or accidental injuries, the effects of which produce gum, canker, &c. Injudicious pruning, such as the amputation of large branches taken off in a careless manner, the wounds being left ragged, by which means humidity gets into the wood and decay follows, is one of the most conspicuous; another equally important, although in general less regarded, will result from injudicious disbudding, (as the summer pruning of wall-trees is termed,) and cannot be better described or reprobated than by quoting the following valuable observations upon this very subject by Mr. Lindley, in his valuable work on fruits, above referred to:—"The disbudding of the young shoots is by many gardeners performed by pinching them off with the finger and thumb: this may be done tolerably well with care; but I have seen some who have been gardeners for years, and who have torn them off, lacerating the bark, and leaving holes in the branches whence they were taken; the consequence has been a diseased state of the tree, with gum flowing from almost every limb. A man possessing a reflecting mind must ever be incapable of practising such a barbarous method. Instead, therefore, of disbudding by either of the former methods, I would recommend a small, sharp, thin-bladed knife to be made use of, cutting off the supernumerary shoots close to the bark of the branch, but not into it, and shortening the smaller ones to half an inch, which will occasion many of them to form natural spurs for blossoms at the base." The apricot, like the peach, when old or diseased, may sometimes be renovated by being cut down; but in general it will be most advantageous to root it up and plant young trees.

doubts exist if *P. amára* be not a native also. The latter is said to have been discovered in Wiltshire; but the most respectable catalogues record it as a native of Europe. One of the North American species, *P. Sénega,* is the once famous *Seneca snake-root,* or *rattle-snake root,* formerly celebrated as an antidote against the bite of the rattle-snake. For this purpose, however, modern practice has discovered more efficacious remedies. It is, however, still used in medicine, as may be seen by a reference to *Thompson's London Dispensatory,* p. 450.

The species immediately under our consideration is one of the most splendid of its family, and by no means so generally cultivated as its merits deserve. It is of rather difficult cultivation, more readily injured by damp than either by moderate cold or drought.

It is increased by cuttings of the young wood, which appear soon after it begins to flower, and when of the length of two inches (if the plants be not drawn up slender for want of sufficient air) are in good condition for the purpose. They should be taken off as closely as possible to the old wood, and if a small portion of it remain attached to the cutting, so much the better. As soon as they are taken off, they ought to be planted into a pot of fine sand, and placed in a dry shady frame, each pot covered with a bell glass, and over several a common hand-glass may be also placed, the more effectually to exclude the air. Shading throughout the day during sun-shine, and frequently wiping the bell-glasses, which will become dim from the condensation of steam generated under them; and guarding against damp are all that is required until the young plants begin to grow, at which period air should be gradually admitted to them until they are fit for potting off into small pots. Some cultivators succeed by striking the young cuttings in a brisk heat, and others choose shoots of the ripened wood, by which they succeed to root them in a moderately high temperature; but we believe the former method, although the most tedious, is the most certain, and is the mode by which we in general increase all the genera whose habits are similar to our present subject.

No. 32.

POLY'GALA SPECIOSA.

SHOWY MILKWORT.

Class 17.
DIADE'LPHIA.

Order 3.
OCTA'NDRIA.

Natural Order.
POLYGALEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
Cape of Good Hope.	1814.	Bot. Reg. 150.	Green-House.	Sandy Peat.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
May to Oct.	3 to 10 Feet.		Cuttings.	Perennial and Shrubby.

GENERIC CHARACTER.—Calyx, consisting of five leaves, two of which are wing-shaped and coloured. Capsuls, compressed and obcordate, or inversely heart-shaped.

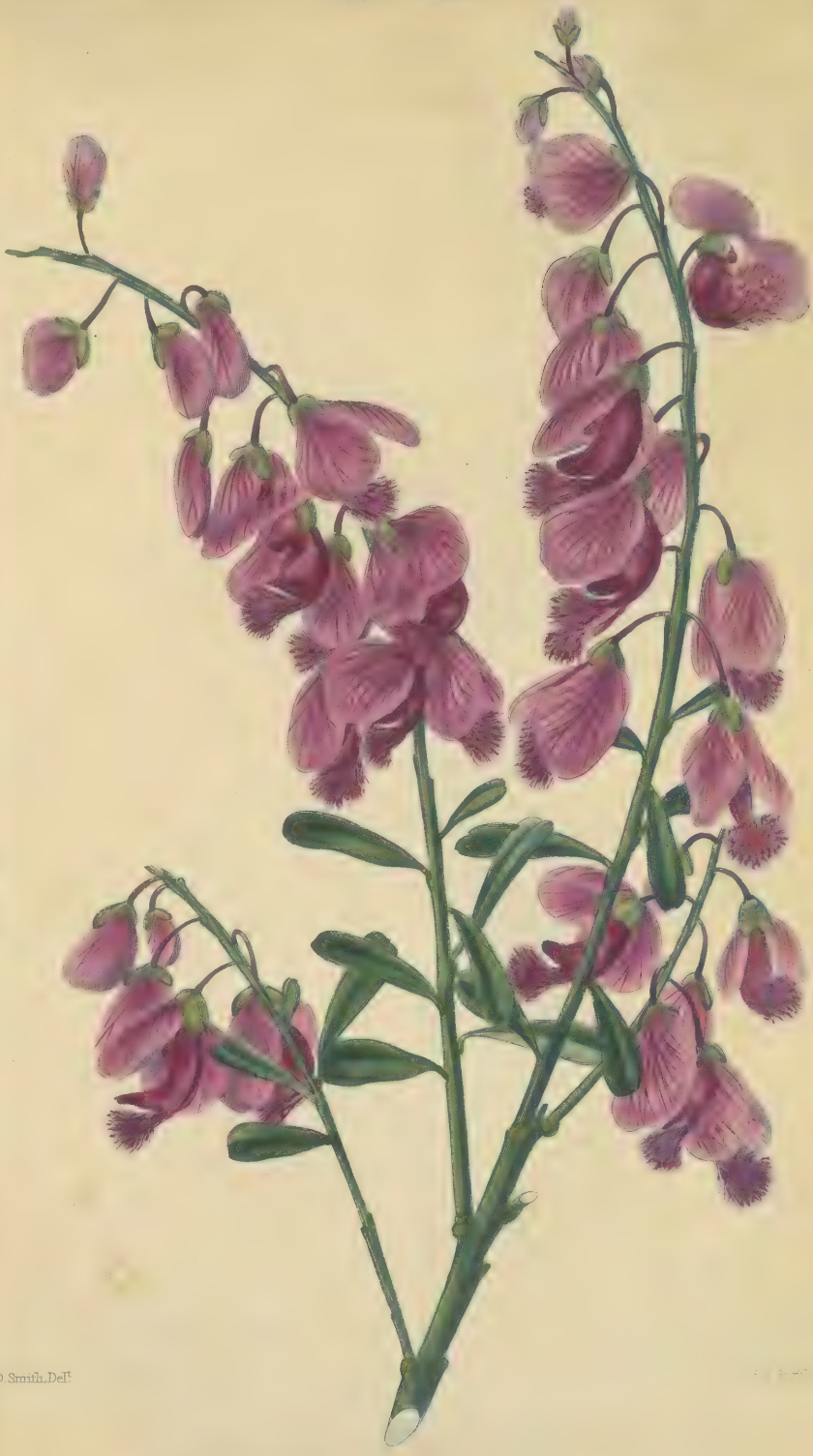
SPECIFIC CHARACTER.—Flowers, crested. Appendage, double. Racemes,* without bractes. Stem, shrubby. Leaves, alternate, oblong, and smooth.

The GENERIC NAME, POLY'GALA, is derived from the Greek *polys*, much, *gala*, milk, because it was believed by the ancient botanists that plants of this genus excited the lacteal secretions in women, and increased the milk of cows that fed on it.

The SPECIFIC NAME, SPECIOSA, pleasing to the eye, beautiful.

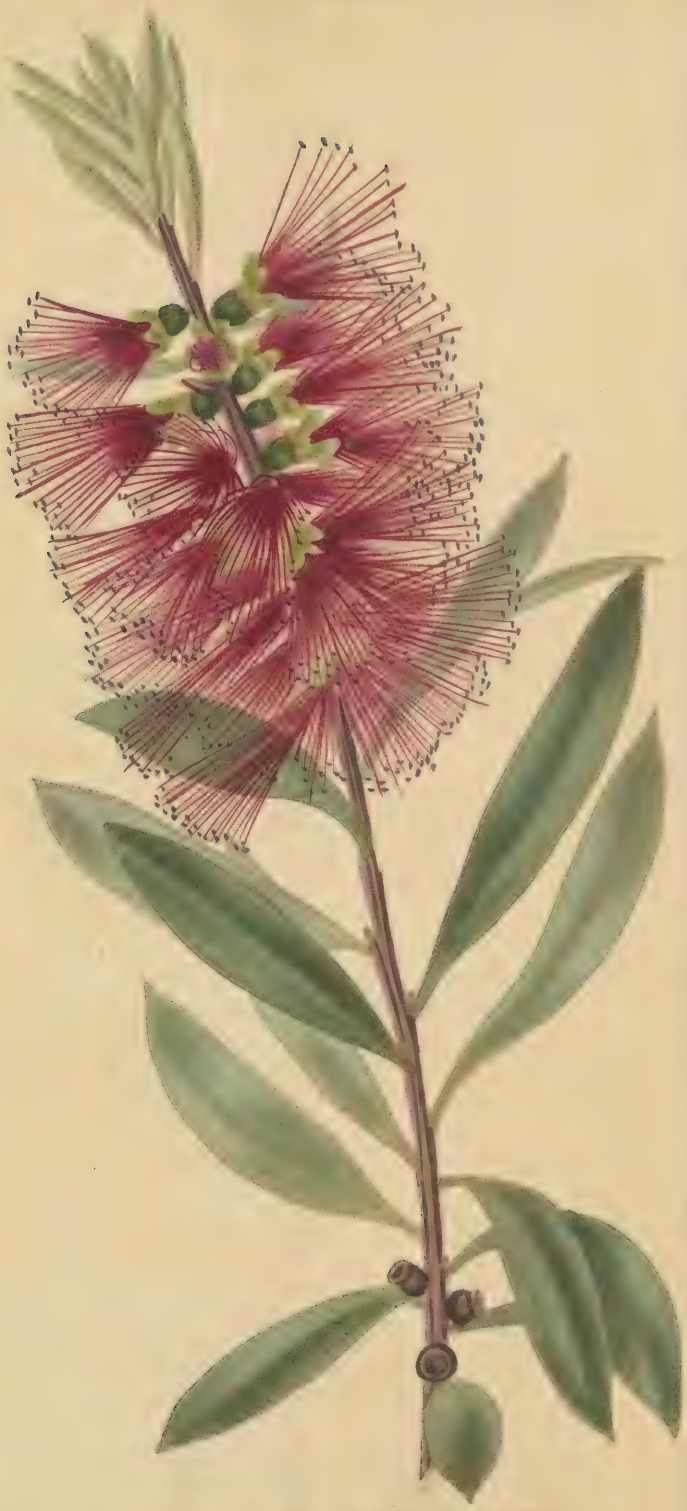
GENERAL OBSERVATIONS.—The plants of this genus are exceedingly beautiful and interesting. Being chiefly natives of the Cape of Good Hope and North America, they all enter in cultivation either as inmates of the green-house or flower-garden. The predominant colour throughout the family is pink, and in point of duration long, many of them flowering throughout the year. There is one species of which there are several beautiful varieties that are indigenous to Britain, and

* Racemes, one of the modes of inflorescence, a particular arrangement of flowers; when they are arranged around a filiform simple axis, each particular flower being stalked. The term, *racemus*, originally signified a cluster of grapes.



E.D. Smith, Del.

Lee Ion. Published by Thomas Kelly, 17 Paternoster Row December 1, 1826.



No. 33.

METROSIDÈROS SPECIÒSUS. *Bot. Mag.*

SHOWY METROSIDÈROS.

Class 12. ICOSA'NDRIA.

Order 1. MONOGY'NIA.

Natural Order.

MYRTACEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
New South Wales.	1823.	Bot. Mag. 1761.	Green-House & Conservatory.	Sandy Loam.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
March to July.	2 to 10 Feet.	Callistèmon Speciòsus.*	Cuttings and Seeds.	Evergreen Shrub.

GENERIC CHARACTER.—Calyx, five-cleft. Petals, five. Stamens, separate, and very long. Stigma, simple. Cells, three to four-celled.

SPECIFIC CHARACTER.—Leaves, scattered, lance-shaped. Capsuls, downy at their ends.

The GENERIC NAME, METROSIDE'ROS, is derived from *metra,* pith of a tree, *sideros,* iron, from the hardness of the wood.†

The SPECIFIC NAME, SPECIO'SUS, pleasing to the eye, beautiful.

GENERAL OBSERVATIONS.—This genus is one of the most splendid of all Australasian plants, and is very likely, in warm situations, to withstand our ordinary winters in the open air. At present, the conservatory is their proper habitation, and, under the most ordinary management, become large shrubs, and highly ornamental. The specimen from which our drawing was taken is not more than nine years old, and there cannot

* It may be proper to remark, that the genus *Metrosidèros* has been investigated by Robert Brown, Esq., well known for his scientific knowledge with the plants of Australasia, and who has established the new genus *Callistemon,* from *kallistos,* most beautiful, *stemon, stamina,* to which he has referred our present subject.

† The wood of *Metrosidèros vera,* a native of the East Indies, and called iron-wood, is used by the Chinese for the purpose of making rudders and anchors. The Japanese consider it so scarce and valuable, that it is only allowed to be manufactured in the service of their king.

have been less than three hundred flowers upon it at one time. It is planted in the end of a bed of *camellias*, and covers the end of a conservatory. Of all the genera, it is the most splendid and most deserving of cultivation, either as a green-house or conservatory plant. In the former case, it begins to flower the first year after it is struck from cuttings, and the second or third when originated from seeds. The whole genus is considered difficult to propagate, being so hard-wooded; but we have found them not more so than the majority of similar plants from the same countries. Sweet, in his Botanical Cultivator, says, "Cuttings may be rooted, but not without difficulty, taken off in the ripened wood, and planted under a bell-glass, in sand." Most of the genus ripens seed (our subject in particular) so abundantly, that a plentiful supply of young plants can always be obtained without much trouble. We may observe, however, that plants of all sorts propagated from cuttings produce their flowers and seeds sooner than those which are increased from seeds, and the latter are supposed, in many cases, to make the most handsome and durable plants.

The seeds of this genus have the property of retaining their vegetative powers for several years, if kept in the seed-vessels, which are hard and bony, and not liable to decay; and seeds are also easily obtained from their native country, which, if properly ripened before they are taken from the trees, and kept free from damp, will vegetate freely, although several years old.

In common with all New Holland plants, the seeds vegetate most successfully if sown in finely-sifted sandy peat, (the pots being previously well drained,) and placed either in a cool somewhat shaded frame, or on a shaded shelf in a green-house. They are sometimes long in coming up, particularly if the seeds be old. When they appear above the mould, air should be gradually admitted to them, to prevent their damping off; and when they become of the height of from three to four inches, they may be planted into pots, singly: their culture afterwards does not differ from that of other New Holland plants. We believe that Mr. Knight, King's Road, has succeeded to raise a vast stock of plants from the seeds collected by Mr. Baxter in New Holland, and even some of the rarer species, in a brisk moist heat: this is contrary to general practice, but the success has been complete.

ON THE PROPAGATION OF BULBOUS-ROOTED PLANTS.

Many of the most beautiful and rarer bulbous-rooted plants are considered very difficult to increase, and consequently are not only high in price, but much more seldom met with, even in good collections, than their merits otherwise deserve. Of these we need only enumerate by name the splendid *Crinum amabile, Cyrtanthus obliquus, Brunsvigia flexuosa, Brunsvigia Josephinæ,* &c. Seeds are sometimes procured in this country of the former, more often of the second, but we believe very seldom, if ever, of the two latter. These, and a few others, are less disposed to produce offsets, or smaller bulbs, than those of other kinds in the same natural family, unless art steps in and assists or performs that which nature seems incapable of producing, at least while in a cultivated state.

We have long paid particular attention to obviate this apparent defect, and to obtain in number plants so very desirable, not only in our own individual practice, but in observing that of others; and we have come to the conclusion, that they, and all other plants of similar habits, may be propagated with success by the following means.

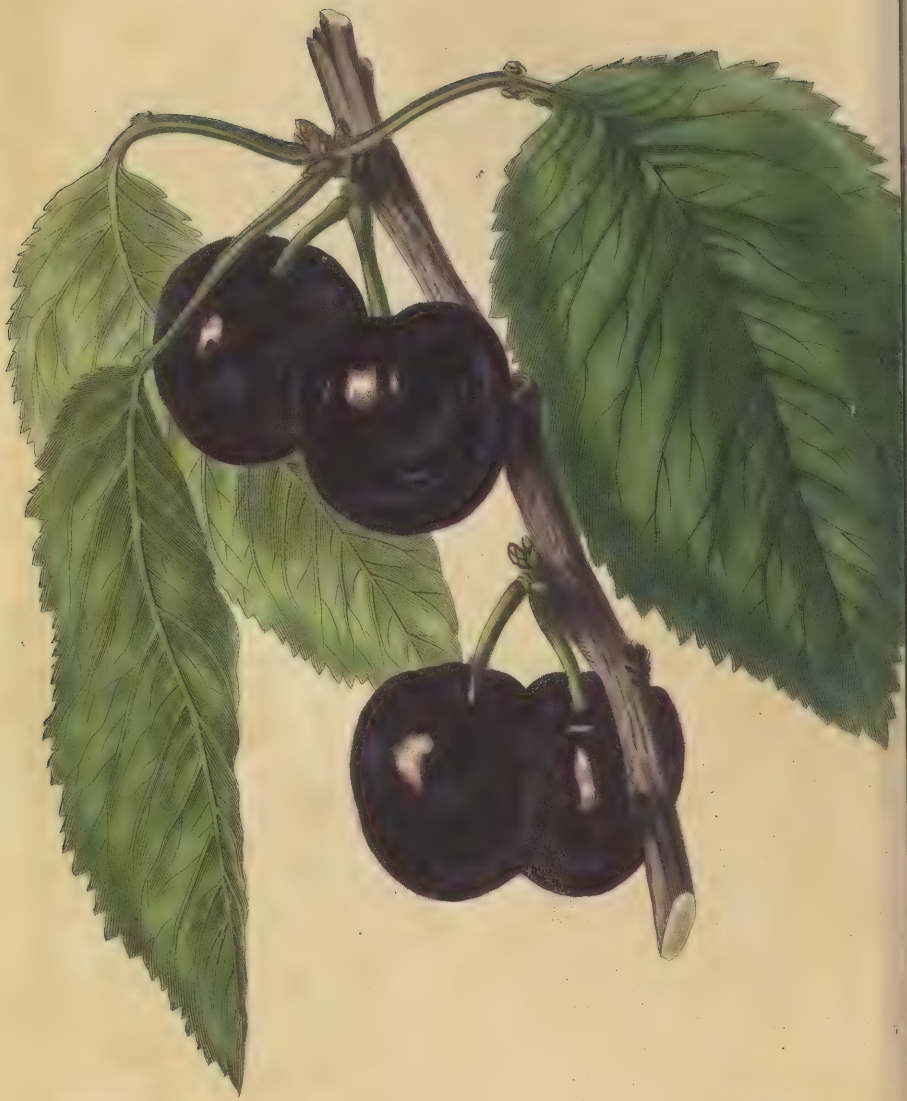
On the supposition that the operator has in his collection strong bulbs of either species, let the top of the bulb be cut off in spring quite close to the quick, that is, sufficiently deep to destroy the centre or heart of the bulb whence the leaves and flower-stems proceed. Thus a complete check will be given to the plant, and, instead of sending up leaves and flowers as formerly, the remaining strength of the bulb will be diverted into the formation of offsets, or small bulbs, round the sides of the original; and these will be more or less in number in proportion to the strength of the original bulb, or the excellence of culture during the operation. Sometimes the same result will follow by merely drilling out the centre of the bulb with a gouge, or instrument similar to that used by cheesemongers for tasting cheese. During this experiment it is absolutely necessary that all superfluous moisture, either from within the bulb or from accidental causes, be guarded against; and, as a primary precaution, as soon as the bulb is cut invert the plant, so that any moisture proceeding from the wound may escape. Water should not be given for some time after the operation has commenced, as the drier the plant is kept for a while the less chance there will be of its damping or rotting off. As an application, pounded charcoal may be used once a day, or every other day, which will greatly counteract the tendency to decay.

ON THE PROPAGATION OF THE GENUS RUBUS, PARTICULARLY THOSE OF TRAILING HABITS.

Some of this genus do not root very freely when laid in the usual manner. All of them may be readily increased by inserting the point of the shoots about an inch in the ground. The sap thus suddenly checked, a callosity or bulb-like appearance will form, from whence roots will soon issue, and a new bud or leader will be at the same time formed, which will form a new plant, which, when sufficiently rooted, may be disengaged from the parent plant, and the original branch will send out one or two young shoots, which in their turn may be similarly treated, until a sufficient supply of plants be obtained. It is a question whether, if this mode of laying were more generally practised, many plants that are difficult to increase might not be obtained in abundance.

ON THE PROPAGATION OF ASCLEPIAS TUBEROSA.

The propagation of this very beautiful and rather rare plant may be successfully attained, by grafting the tops of the roots, each having a bud or eye, upon the roots of any of the commoner and hardier species of *Asclepias*. The operation is to be performed as practised on *Dahlia, Pæonia*, &c., and also on apples, pears, &c., as described in *Pract. Gard.* p. 373.



F.D.Smith Delt F.W.Smith Sculpt

London Published by Thomas Kelly, 17, Paternoster Row, January 1.1832.

XXXV.

BLACK TARTARIAN CHERRY.

Figured in Pom. Mag. No. 44; *Hooker's Pomona Londinensis,* No. 31, *under the name of Black Circassian. Described in Forsyth's Treatise,* 3d Ed. No. 15, *under the name of Fraser's Black Tartarian; and in the same work,* No. 14, *as Ronald's Large Black Heart; Practical Gardener,* p. 488, *as the Black Tartarian, with many synonyms; Ency. of Gardening, in the Table of Cherries; and in G. Lindley's Guide to the Orchard, &c.* p. 149. *Besides the above, it is known in many gardens as the Black Russian, Fraser's Black Heart, Superb Circassian, &c.*

FRUIT, somewhat heart-shaped, with an irregular surface.

COLOUR, dark purplish, black, and glossy.

STALK, rather short and thick.

Ripens about the end of July or beginning of August, according to the situation in which it may be planted.

This very excellent cherry is said to have been introduced into this country in 1796, from Russia, by the late Mr. John Fraser, and also, according to the Pomona Londinensis, and other authorities, in 1794, from Circassia, by Mr. Hugh Ronalds, the respectable nurseryman at Brentford, and author of an excellent work on apples, lately published. The difference in the date of introduction, as well as in the identical individual, is a matter of no amount nor surprise, when we consider the variety of channels through which many fruits and plants are yearly brought to our knowledge. It is highly probable that trees of it were introduced at both periods, and also by the individuals above named, as both of them have been eminent in the profession to which they belong.

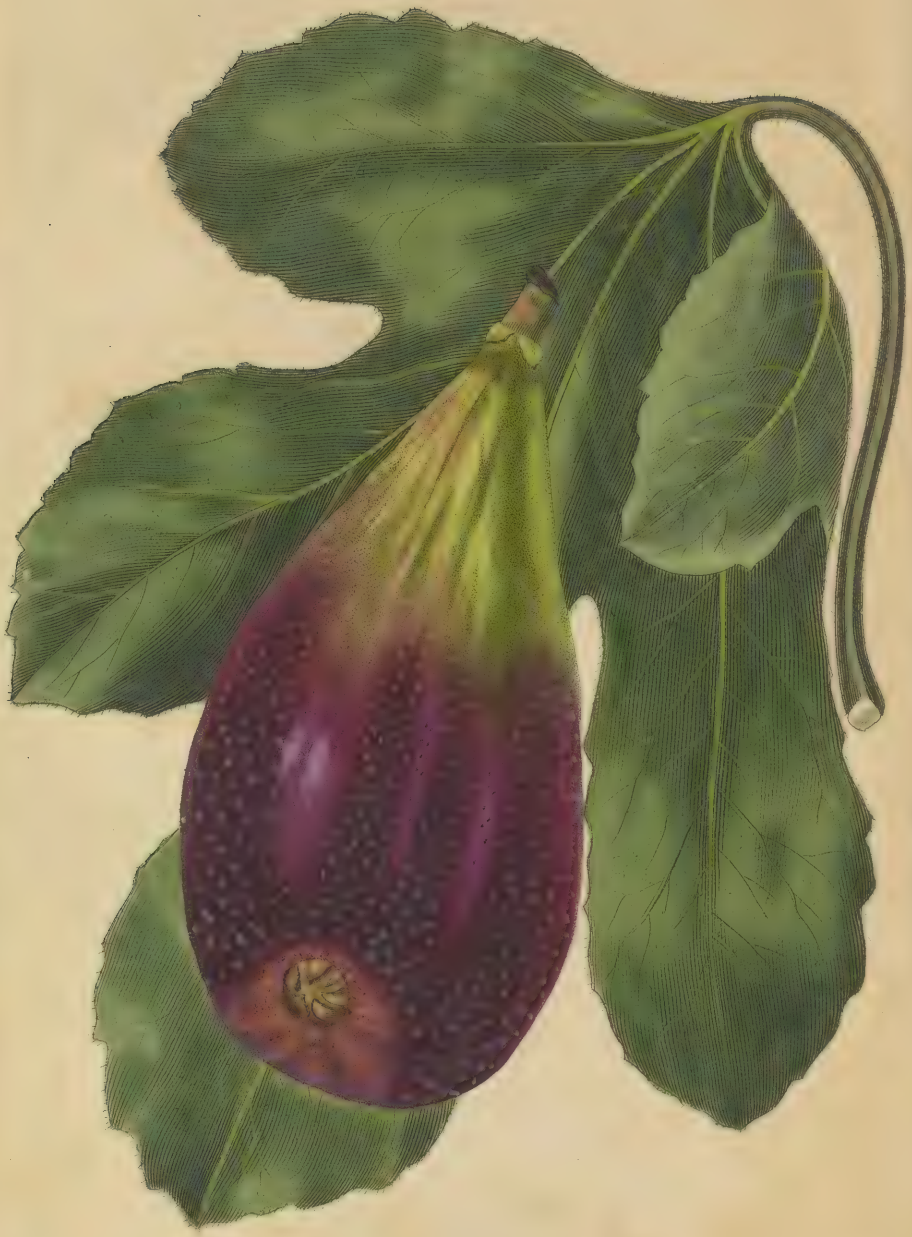
This is a very excellent cherry, and well deserves a place in every garden, both as a standard and wall tree. It is now much cultivated by the market-gardeners as a standard, and has been forced with success in several instances. It is a hardy, healthy tree in most situations, and also a very good bearer.

In the general management of cherries, the following observations may be useful. In regard to planting, this should be done as early in autumn as possible; that is, as soon as the trees have shed the majority of their leaves: on no account should they be planted later than the end of October or middle of November. By being thus early planted, the trees will make fresh roots before the setting in of winter, and thus, to a certain extent, be established by spring. In April, just as the buds begin

to spring, they should be headed back to within three or four inches of the base of the shoots, which will produce a sufficiency of young branches wherewith to form the future tree. This pruning should not, upon any account, be performed in autumn, as is often, but erroneously, practised. The shoots now produced should be laid in to their full length, and, if not injured by accident, should not be shortened.

The branches of cherries are generally laid in too thick; that is, a superabundance of them are retained, the quality as well as the quantity of the fruit is thereby materially deteriorated and lessened. In the case of the different varieties of Dukes and Hearts, the branches should not be less than eight or ten inches apart; and, probably, the only exception to this rule, in regard to all cherries, is in the case of the Morello, which may be laid in at four or five inches distance, as their mode of growth and bearing is different.

The cherry, when old, is impatient of much pruning, particularly in amputating large branches, as it is liable to gum and canker, unless the operation be carefully performed, and the section so formed as to prevent the lodgment of moisture. Hence the practice of heading down diseased or old trees is less to be recommended than that of digging them up entirely, and planting young ones.



E.D.Smith Delt F.W.Smith Sculpt

London Published by Thomas Kelly, 17, Paternoster Row, January 1.1832.

XXXVI.

BRUNSWICK FIG.

Figured in Pom. Mag. Fig. 48. *Enumerated in Hort. Soc. Fruit Catalogue*, p. 49. *Described in Forsyth's Treatise*, 4th Edit. p. 205, *under the name of Madonna Fig; Practical Gardener*, p. 492; *Lindley's Guide to the Orchard*, p. 163, *&c. This is Madonna Fig of Miller, and the Hanover Fig of many gardens.*

The foliage of this variety is larger than that of any other, very deeply cut into five narrow lobes.

FRUIT, very large, sometimes twice the size represented in our figure. Eye, depressed. Stalk, short and thick. Skin, paleish green where shaded, dullish brown next the sun, often sprinkled with small brown spots.

FLESH, white next the skin, pink towards the interior. Flavour, sweet and luscious.

Ripens, in the neighbourhood of London, from the middle to the end of August.

This is one of our largest sized figs, and although many gardeners and writers on fruits have denounced it a coarse and unprofitable fruit, such is really not the case. It is one of the most useful and hardy kinds in cultivation, not only ripening in full perfection on walls of eastern and western aspects, but also on standards in moderately sheltered situations.

The fig is supposed to have been brought into this country from Italy, by Cardinal Pole, in 1526, and planted by him in the gardens attached to the palace at Lambeth. The identical trees so introduced are supposed to be part of those which to this day flourish in those gardens, and are of the kind known by the name of the White Marseilles Fig. They at one period covered a very large space of wall, but suffered considerably from the frost of 1813-14, from which accident they are, however, fast recovering. In 1648, Dr. Pocock planted a fig-tree in the garden of the Regius Professor of Hebrew at Oxford, of which the following anecdote is related. Dr. Kennicott being passionately fond of this fruit, and seeing a very fine fruit on this tree, which he wished to preserve, wrote on a lable "Dr. Kennicott's Fig," which he fixed to the fruit. A wag, who had observed the transaction, watched the ripening of the fruit, which he gathered, and exchanged the label for one thus worded—"A fig for Dr. Kennicott." From these and many other aged fig trees that could be mentioned, we learn that the fig, like the vine, attains a great

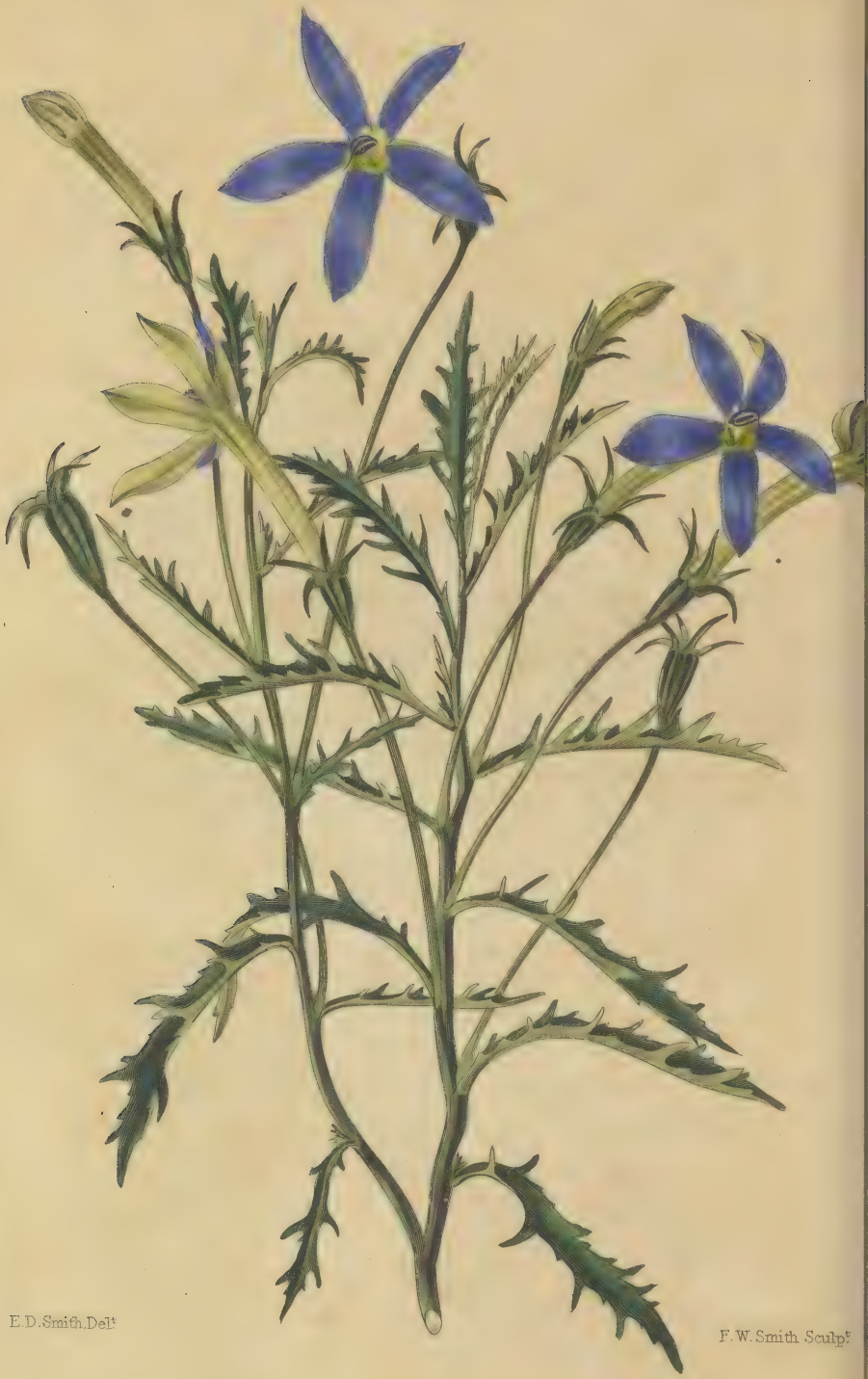
age, and appears, also, not to be impaired either in productiveness or merit.

The culture of the fig was for a long period little studied or understood in this country after its introduction. It has, however, attracted the attention of scientific horticulturists within these few years, and may now be said to be regulated upon as sound principles as any other fruit-bearing tree. For this knowledge of this esteemed fruit, we are chiefly indebted to Mr. Knight, President of the Hort. Soc.; Sir Chas. Monck, Bart.; the Hon. W. Wickham; and several others, who have recorded their several experiments in the Transactions of the Hort. Soc. The principal object of these experiments appears to be the inducement of a more fruitful disposition in the trees; that is, the production of a greater quantity of fruit, and at stated periods. To attain this desideratum, the operation of pruning and training appears to have been principally acted upon. Knight disapproves, and we would say very justly, (although the most general mode,) of perpendicular training. Horizontal, or, next to that, pendant training, we conjecture the best, as having a greater tendency to check the too rapid ascent of the sap. Wickham recommends a system of pruning that may increase the proportion which the midsummer shoots bear to the spring shoots, both in number and length. Monck depends chiefly on the operation of ringing, and is highly successful in his culture of this fruit.

The drawing of our subject was made from a tree in the Claremont garden.

Isotoma. Axillaris.

N° XXX



E.D.Smith.Delt.

F.W.Smith Sculpt.

London. Published by Thomas Kelly. 17. Paternoster Row. Febuary 1.1832.

No. 34.

ISOT'OMA AXILLÁRIS.

AXILLARY-FLOWERED ISOT'OMA.

Class 5. PENTA'NDRIA.

Order 1. MONOGY'NIA.

Natural Order.

LOBELIÀCEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
New Holland.	1824.	Bot. Reg. 964.	Green-house & Flower Garden.	Peat & Loam.
Time of Flowering.	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
June to Nov.	4 to 8 Inches.	Lobelia Senecioides of Bot. Mag.	Seeds and Cuttings.	Annual.

GENERIC CHARACTER.—Corolla, tubular. Stigma, two-lobed. Capsuls, from two to three-celled.

SPECIFIC CHARACTER.—Leaves, narrow, lanceolate. Peduncles, axillary, longer than the flower.

The GENERIC NAME, ISOT'OMA, is supposed to be derived from the Greek words *isos*, equal, and *temno*, to cut, from the equally cut lobes of the corolla.

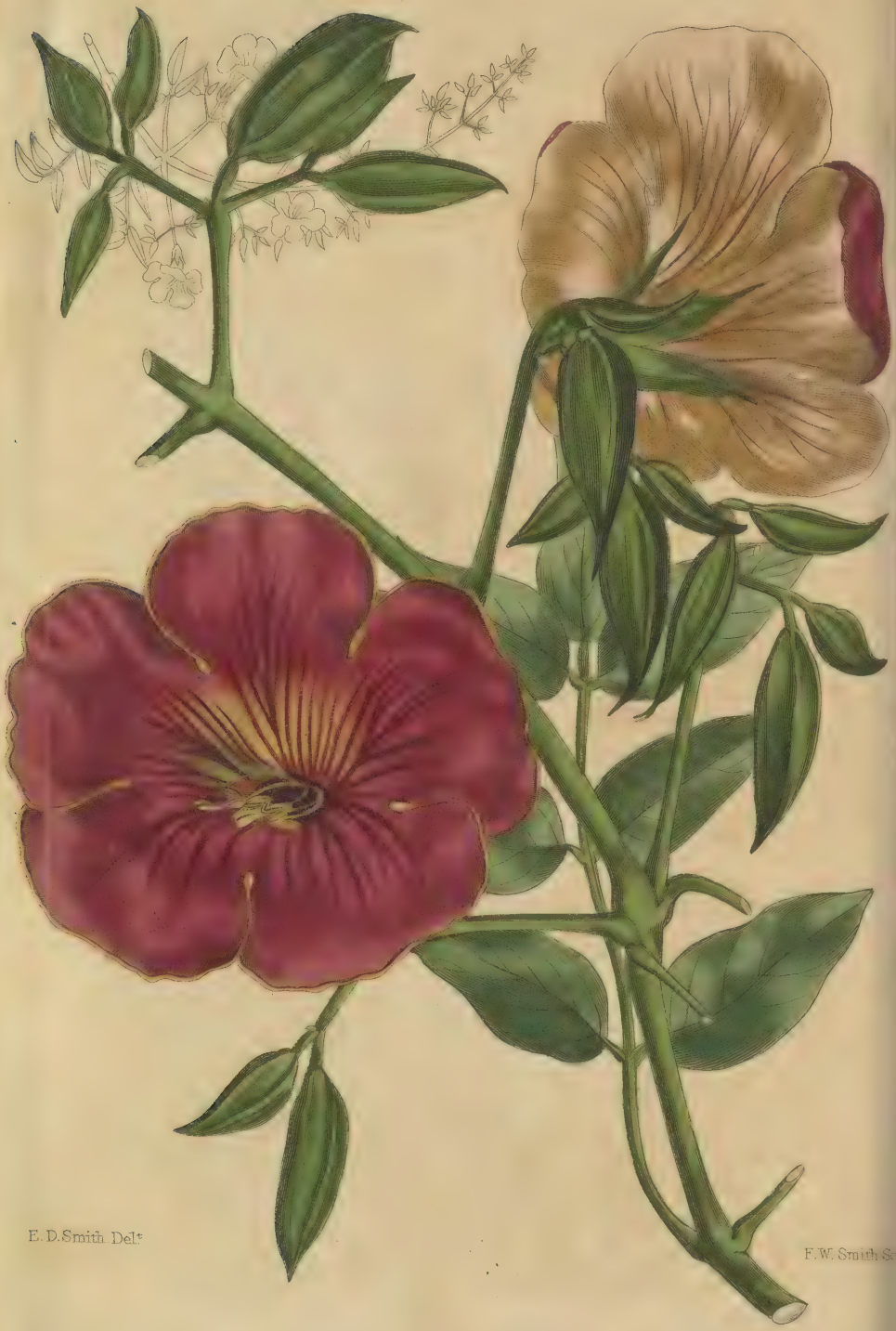
The SPECIFIC NAME, AXILLA'RIS, from *axilla*, the arm-pit, from the peduncles, or flower-stems, in this species being axillary, or growing out of the axils of the leaves.

GENERAL OBSERVATIONS.—The genus *Isot'oma* is only of recent formation, and has emanated from *Lobelia*, to which it is nearly related. It is one of the prettiest little plants that can ornament a green-house, and although little else than an annual with us, is probably perennial in its native country. It is readily increased by seeds, which ripen freely and abundantly, and has found its way as an annual into almost all our respectable seed shops. It is also easily increased by cuttings, planted in pure sand without topping, and covered with a bell-glass. Plants so originated will flower sooner than such as are originated from seeds, but will not continue in existence so long, neither will they flower so abundantly, nor make such handsome plants, except planted out; or they

may be sown in spring along with half-hardy annuals, and treated in like manner. The seeds may be sown in September, as soon as they are ripe, and protected during winter in a green-house, or dry frame, where they will be secure from damp, and where the air is pure and unconfined. Plants originated in autumn will come into flower much sooner in the spring than such as are raised in March or April, being the usual season for sowing this plant. These latter, however, will come into flower about the end of summer, and prolong the season of flowering till destroyed by frost. At whatever period the seeds are sown, it is absolutely necessary, to secure success, that they be potted or planted off when quite young, for if left till they attain a larger size, the success will be precarious.

In regard to situation, this plant is often planted in beds or masses, and also as edgings to flower-borders, and in either way has a good effect.

Bignonia Grandiflora.



E. D. Smith Delt.

F. W. Smith Sc.

London, Published by Thomas Kelly, 17, Paternoster Row, Febuary 1, 1832.

No. 35.

BIGNONIA GRANDIFLORA.

LARGE FLOWERING TRUMPET-FLOWER.

Class 14.	*Order* 2.
DIDYNAMIA.	ANGIOSPERMA.

Natural Order.

BIGNONIACEÆ.

Native Country.	*Introduced*	*Figured in*	*Garden Habit.*	*Soil.*
China.	1800.	Bot. Mag. 1398.	Conservatory.	Peat & Loam.
Time of Flowering	*Height.*	*Synonym.*	*Mode of Propagat.*	*Duration.*
July & Aug.	10 to 20 Feet.	Tecoma Grandiflora.	Cuttings of the ripened Wood.	Shrubby.

GENERIC CHARACTER.—Calyx, cup-shaped, cut into five divisions. Corolla, bell-shaped, cut into five divisions. Pod, or seed-vessel, two-celled. Seeds with membranous wings.

SPECIFIC CHARACTER.—Leaves, pinnate. Leaflets, ovate, acuminate, toothed. Panicle, terminal. Tub of the corolla the length of the calyx.

The GENERIC NAME, BIGNONIA, was given to this genus by Tournefort, in compliment to his friend the Abbe Bignon, librarian to Louis XIV.

The SPECIFIC NAME, GRANDIFLORA, from the size of its flowers.

GENERAL OBSERVATIONS.—The genus *Bignonia* is composed chiefly of climbing plants of great beauty; the majority, however, it is to be regretted, are natives of warm climates, and consequently are too tender to become so generally ornamental as could be wished. *Bignonia Capseolata* is truly hardy and ornamental, as is also *Bignonia Pandora,* now *Tecoma Australis, Bignonia Radicans,* with its varieties, also changed to *Tecoma,* and may with much propriety and effect be trained to walls in moderately sheltered situations. We question much if our present subject, under favourable circumstances, would not also stand the ordeal of an English winter, at least with slight protection. Of the stove species, *B. Venusta* and *B. Chamberlaynii* are amongst the most splendid,

and are both of easy culture, and by no means difficult to increase by cuttings in the ordinary modes practised for stove plants. The species *Grandiflora, Radicans,* and its varieties, are considered rather difficult to increase: the former we have increased frequently by cuttings of the ripened wood, in a moderate bottom heat, and also cuttings of the young shoots in a brisk heat, without being covered with glasses; the latter, with its varieties, are usually increased by laying, or by cuttings of the roots, which, if placed on a moderate hot-bed, will root the sooner.

The genus *Tecoma,* to which our present subject is now generally referred, is of modern date, and is derived from *Tecomaxochitl,* a name applied in Mexico to some species of the genus.

The drawing of our subject was taken from a specimen grown in the Claremont gardens.

The proprietor of the Flora and Pomona having determined to complete that work, at least in its present form, the editor presumes he cannot better close his labours than by offering to the subscribers the following selected list of choice or rare plants, (not figured and described in this work,) and which he is confident, if added to those already recommended, will form a selection, which will be extremely ornamental to either the stove, green-house, or flower-garden, and, if judiciously managed, will afford a succession of bloom throughout the year.

LIST OF PLANTS.

Calciolaria, *all the genera*, (2) (4).
Salvia Pseudo-coccinea, (2) (4).
——— Mexicana, (2) (4).
——— Chamædryoides, (2) (4).
——— Involucrata, (2) (4).
——— Coccinea, (2) (4).
——— Splendens (3).
——— Fulgens, (3).
Cyclamen, *all the genera*, (2).
Anagullis, *all the genera*, (2), *mostly* (4).
Chironia Linoides, (2).
——— Deccusata, (2).
Phlox, all the genera, (3).
Polemonium Gracile, (3).
——— Mexicanum, (3).
——— Sibericum, (3).
Spigelia Marilandica, (3).
Ipomæa Quamoclit, (1).
——— Paniculata, (1).
——— Insignis, (1).
Lubinia Atropurpuria, (3).
Epacris, *all the genera*, (2).
Sprengelia Incarnatu, (2).
Andersonia Sprengeloides, (2).
Azalia, *all the species and varieties*, (3).
Campanula, *all the species*, (3).
Lobelia Unidentata, (2) (4).
——— Tupa, (2) (4).
——— Decumbens, (2) (4).
——— Secunda, (2) (4).
——— Fulgens, (3) (4).
——— Splendens (3).
——— Cardinalis, (3).
——— Cærulea, (2) (4).
Roella Ciliata, (2).
Lechenaultia Formosa, (2).
——— Baxteri, (2).
Lonicera Flexuosa, (3).
Symphoria Racimosa, (3).
Ribes Sanguinea, (3).
Asclepias Tuberosa, (3).
——— Amœna, (3).
——— Incarnata, (3).
Gentiana, *all the genera*, (3).
Narcissus, *all the genera*, (3).
Pancratium, *all the genera*, (2) and (1).
Crinum, *all the genera*, (2) and (1).
Amaryllis, *all the genera*, (2).
Alstræmeria, *all the genera*, (2) and (1).
Lilium, *all the genera*, (3).
Tropæolum Tricolorum, (2) (4).
Boronia Pinnata, (2).
Corræa Speciosa, (2).
——— Pulchella, (2).
Erica, *all the genera*, (2) *mostly*.
Enothera, *all the genera*, (3).
Fuchsia, *all the genera*, (2) (4).
Chorizema Henchmannii, (2).
——— Rhombea, (2).
Dillwynia, *all the genera*, (2).
Pultenæa, *all the genera*, (2).
Daviesia, *all the genera*, (2).
Crowea Latifolia, (2).
Rhododendron, *all the species*, (3).
Andromeda, *all the genera*, (3).
Oxalis Boivii, (2) (4).
——— Florabunda, (2) (4).
Potentilla Formosa, (3).
——— Atrosanguinia, (3).
——— Russeliana, (3).
Cistus, *all the genera*, (3).
Helianthemum, *all the genera*, (3).
Pæonia, *all the genera*, (3).
Magnolia, *all the genera*, (3) *mostly*.
Prostrithera Violacea, (2).
——— Lasianthos, (2).
Gesneria, *all the species*, (1).
Sinningia, *all the genera*, (1).
Gloxinia, *all the genera*, (1).
Bignonia Chamberlaynii, (1).
——— Venusta, (1).
Tecoma Radicans, (3).
——— Grandiflora, (2).
Didymocarpus Rexii, (1).
Sulpiglossus, *all the genera*, (2) (4).
Penstemon, *all the genera*, (3).
Thunbergia, *all the genera*, (1) (4).
Clerodendron Fragrans, (1).
Maurandya, *all the genera*, (2) and (1).
Mimulus Moschalus, (3).
——— Rivularis, (3).
——— Guttalus, (3).
Russelia Multiflora, (1).
Collinsia Grandiflora, (3).
Angelonia Salicarifolia, (2) (4).
Passiflora, *all the genera*, (1) and (2).

Hovea Celsi, (2).
Crotalaria Elegans, (2).
Lupinus, *all the genera*, (3).
Camellia, *all the genera*, (2).
Polygala, *all the genera*, (2) *mostly*.
Graphalium, *all the genera*, (2) *mostly*.
Elichrysum, *all the genera*, (2).
Galardia Bicolor, (3).
——— Aristata, (3).
Gazania, *all the genera*, (2).
Calochortus, *all the genera*, (2).
Hunnemania Fumarifolia, (3).

Those marked (1) are stove plants.
——————— (2) green-house plants.
——————— (3) hardy plants.
——————— (4) belonging to the three former divisions, but calculated to plant out during summer in the flower borders.

N. B. The majority of green-house plants, and many stove plants, flower admirably when planted out into sheltered and warm borders about the beginning of June. Many of those may be advantageously taken up in autumn, and kept in pots till the succeeding June; but by far the greater number succeed best by having a supply of young plants propagated on purpose. This introduction of tropical plants into our flower borders has a novel effect, and is a modern improvement in flower-garden management, and has, perhaps, been carried to a great extent, combined with complete success, by Mr. Penny, an intelligent botanist and industrious cultivator connected with the Epsom nursery. We have often observed, under his management, many plants which have hitherto either not flowered at all, or only in a very imperfect manner in the stove or green-house, attain all their native luxuriance and splendour of bloom, and that within the space of four months, which may be considered the utmost limits of our summer sufficiently warm for this purpose.

INDEX TO THE PLANTS.

LISTS

OF

THE MOST APPROVED KINDS OF FRUITS

NOT FIGURED OR DESCRIBED IN THE FLORA AND POMONA.

Summer Apples.

1. Red Quarendon.
2. Early Red Margaret.
3. Summer Golden Pippin.

Autumnal Apples.

4. Early Nonpareil.
5. Old Golden Pippin.
6. King of the Pippins.
7. Padley's Pippin.

Winter Apples.

8. Golden Harvey.
9. Canadian Reinette.
10. Northern Greening.
11. Norfolk Beaufin.
12. Court of Wick.
13. Fearn's Pippin.
14. Royal Pearmain.
15. Blenheim Pippin.

Summer Pears.

1. Early Bergamot.
2. Jargonelle.

Autumn Pears.

3. Autumn Bergamot.
4. Duchess of Angouleme.
5. Napoleon.
6. White Doyenne.
7. Aston Town.

Winter Pears.

8. Beurre Diel.
9. Colmar.
10. D'Auch.
11. Easter Beurre.
12. Passe Colmar.

Apricots.

1. Brussels.
2. Royal.
3. Turkey.

Cherries.

1. Black Eagle.
2. Bigarreau.
3. Florence.
4. Waterloo.
5. Knight's Early Black.

Figs.

1. Malta.
2. Small Early White.
3. Large White Genoa.
4. Black Ischia.

Grapes.

1. White Frontignan.
2. White Muscat of Alexandria.
3. Black Prince.
4. White Sweetwater.
5. West's St. Peter's.
6. Black Lombardy.
7. Grizly Frontignan.

Peaches.

1. Royal George.
2. Bourdine.
3. Late Admirable.
4. Vanguard.
5. Bellegrade.
6. Malta.
7. Chancellor.

Nectarines.

1. Red Roman.

2. Fairchild's.
3. Scarlet Mewington.
4. Brinion.

PLUMS.

1. Wilmot's Early Orleans.
2. Imperial Diadem.
3. White Magnum Bonum.
4. Goliath.
5. Morocco.
6. St. Catharine.

STRAWBERRIES.

1. Prolific Hautbois.
2. Old Pine.
3. Elton Seedling.
4. Wilmot's late Scarlet.
5. Bath Hautbois.

The above selection, or even a part of them, in addition to those fruits figured and described in the Flora and Pomona, will afford an abundant supply throughout the whole year, if their management be conducted upon good principles.

We have frequently observed that the most certain and abundant supply is not always to be expected from those gardens in which the greatest number of varieties are cultivated, but from such only as contain a well-selected and moderate number of sorts. We flatter ourselves that those who may be guided in forming their selections from the Flora and Pomona, will not have cause to regret nor censure us in the selection we have adopted.

INDEX TO THE FRUITS FIGURED.

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John Muir 6th Feb 1832

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Head Gardener to his Royal Highness Prince Leopold, at Claremont; and Author of "The Practical Gardener and Modern Horticulturist."

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